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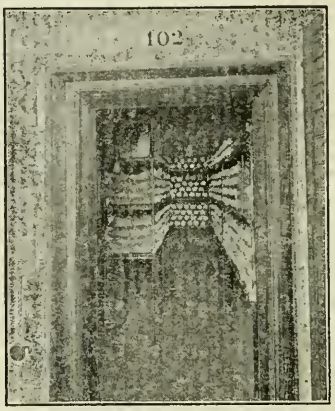

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The Annual Meeting of The Association of Military Surgeons U. S. will be held in New Orleans, April 22, 23, and 24, 1920.

CLINICAL THERMOMETERS

GOOD AND BAD

In line with the arguments which we have advanced on the subject of Clinical Thermometers, in recent issues of this paper, its readers will be interested in the following EXCERPT FROM THE BOSTON TRANSCRIPT of January 23, 1920:

The Clinical and Its Functions

"The clinical thermometer is a very delicate instrument, the use of which is largely restricted to those who have been trained in medicine or nursing. The value of the instrument depends entirely upon its ability (1) to indicate accurately the temperature of the human body; (2) to repeat the same temperature reading under the same conditions; and (3) to hold or 'register' the maximum point until such time as the practitioner wishes to reset it for another observation.

"The accuracy of the thermometer depends upon the purity of the mercury used, the absence of air specks, and the finest possible adjustment of the constriction, or trap, whose working is microscopic and which is the essential factor in making the thermometer 'self-registering.'

"In regard to the importance of securing exact and accurate readings from the clinical thermometer, it seems scarcely necessary to expatiate. The records which it provides are an important matter to the physician in modern medical practice, both in determining his diagnosis and in following and controlling the course of a disease through all its later stages. In using a clinical thermometer it is necessary always to shake the mercury down below normal before setting it for another reading. Thermometers of poor quality may shake down very easily, but many of them shake down so easily that they do not register the maximum temperature. This is perhaps the worst fault the clinical thermometer can have, and it is particularly dangerous when used on patients suffering from tuberculosis, pneumonia or appendicitis."

Determining Upon Its Accuracy

"The problem of deciding whether a clinical thermometer is accurate—whether it is an instrument of error or a guide to truth—is very difficult. No simple testing by the eye will give any sufficient indication, as it will in the case of a watch, which can be fairly closely tested by any observer merely by comparison with a chronometer."

"In large part even the profession has had to rely upon inadequate means of establishing the quality of the clinical thermometers offered for sale, while the general public has been almost wholly at the mercy of chance in the premises."

"To test a clinical thermometer requires special apparatus and standards which have been certified by a Bureau of Standards."

How the Massachusetts Law Is Working Out

Since the law went into effect in Massachusetts, governing the standardization and sale of Clinical Thermometers (General Acts of 1917) the Commissioner of Weights and Measures has been very active in testing Thermometers with reference to their value as measurers of temperature in the human body.

"Those instruments were passed which showed that they were practically safe under any condition of service. Those which were open to serious question or were proved to be dangerous were rejected and held for further observation."

"The first tests were harrowing, and fully justified the enactment and enforcement of the law. Quantities of thermometers were picked up in which three out of four, or seventy-five per cent, were rejected, while the general average covering the testing of nearly 10,000 thermometers has shown a rejection of one out of four —or twenty-five per cent. Later tests made after the law had been in operation for some time show a decidedly improved condition."

"Those manufacturers who proved to be making and selling reliable thermometers were given a license to certify and seal them in their own laboratories. This seal: the printed abbreviation 'Mass.,' with the manufacturer's designating mark, must appear on any clinical thermometer offered for sale in the Commonwealth of Massachusetts. The penalty for offering for sale unsealed thermometers is a fine of fifty dollars for each thermometer thus exposed. The man with the goods on hand is the man whom the law holds liable."

"By this means, the public is protected, as each thermometer is supplied with a certificate of accuracy bearing the maker's name. If the thermometer proves to be not up to the State standard, the certificate becomes evidence of malicious fraud and for this reason the manufacturer's certificate should be carefully preserved even though the corrections noted have been memorized."

"In testing, it developed that hundreds of so-called certificates had been issued which, aside from the certificate number, bore no relation whatever to the accompanying thermometer, but falsely claimed to represent verifications never made. And very rarely did they bear the manufacturer's name."

"The results obtained after a year of earnest effort in testing thermometers and inspecting manufacturing plants are sufficient proof of the efficiency of the department and the value of the laws. With the ever widening circle of the users of clinical thermometers, there will be an increasing appreciation of what has been done in Massachusetts and it is to be hoped a determined movement on the part of other States to measure up to the level of industrial honesty established here in this matter."

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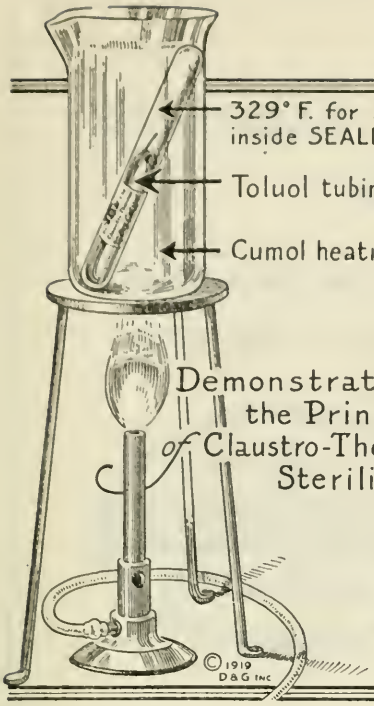

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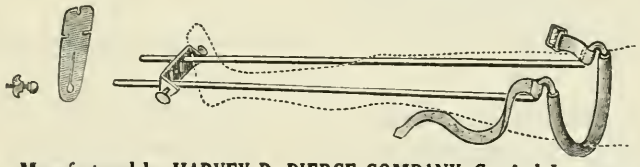

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William P. C. Barton, M.D., Surgeon, U. S. Navy, Chief of The Bureau of Medicine and Surgery, September 2, 1842, to April 1, 1844.

THE
MILITARY SURGEON

VOL. XLVI MARCH, 1920 NUMBER 3

ORIGINAL ARTICLES

Authors alone are responsible for the opinions expressed in their contributions

WILLIAM PAUL CRILLON BARTON (1786-1856), SURGEON, UNITED STATES NAVY—A PIONEER IN AMERICAN NAVAL MEDICINE [1]

BY CAPTAIN FRANK LESTER PLEADWELL
Medical Corps, United States Navy

(With two illustrations)

WHEN it was suggested as appropriate that the United States Navy should be represented in the list of authors contributing articles to the Anniversary Volume in honor of Sir William Osler's seventieth birthday, and I was requested to furnish the article, I immediately cast about for a suitable subject. There came to mind a small volume, discovered some years ago in an obscure corner of the library of the Naval Medical School, remarkably advanced in its thought for the times, entitled, "A Treatise containing a Plan for the Internal Organization and Government of Marine Hospitals in the United States together with Observations on Military and Flying Hospitals and a Scheme for Amending and Systematizing the Medical Department of the Navy," by William P. C. Barton, M.D., Surgeon in the Navy of the United States; Second Edition, Philadelphia, 1817. It occurred to me that a biographical study of the author of this volume might prove of historical interest in revealing the state of naval medicine at that early period in our service. There have appeared several excellent biographical sketches of naval medical officers distinguished for bravery in action and heroic self-sacrifice in the line of duty, but, so far as my knowledge goes, no one has essayed to portray a

Reprinted from the *Annals of Medical History*.

[2] The following are noteworthy examples:

(1) Gatewood, J. D.: "The Private Journal of James Markham Ambler, M.D.," Passed Assistant Surgeon, United States Navy, and Medical Officer of the Arctic Exploring steamer *Jeannette*." *Nav. Med. Bull.*, April, 1917.

(2) Id., "William Longshaw, Jr., Assistant Surgeon, U. S. Navy, 1839–1865." A Biographical Sketch. *Nav. Med. Bull.*, October, 1913.

(3) Elder, William: "Biography of Elisha Kent Kane." Childs and Petersen, Philadelphia, 1858.

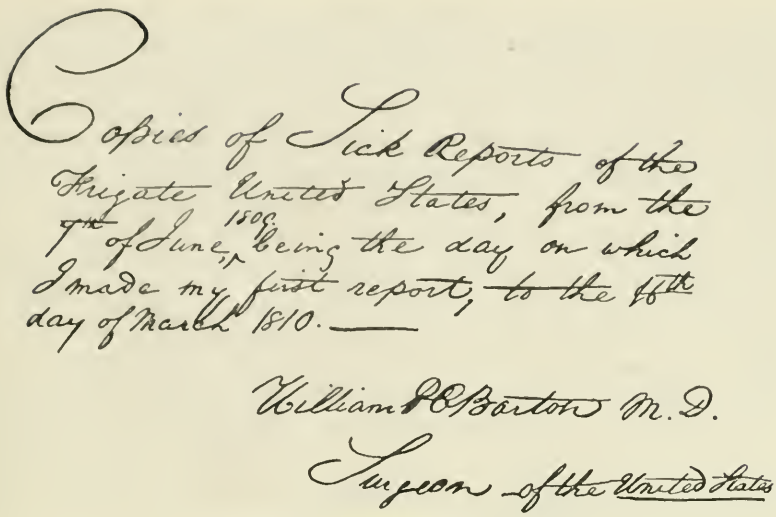
(1.

Sick Reports of the Frigate United States,
Stephen Decatur Esqr. Commander.
William P. C. Bacton, Surgeon.
{Cacapy Island Elizabethtown, Va.

Names of the men.	Diseases
Cornelius Aston	Inflammation of the testes
Whitman Wallet	Ulcer on leg (nearly well)
John Waters	Fever (convalescent)
William J. Smith	Rheumatic pains.
John Collans	Ulcer on leg.
Wm de Heals	Dysentery (chronic)
Wm Ryseler	Typhus fever
Mc Kinley	Inflamed arm
Robert Russel	Cough and ulcer on leg.
Wm Reed	Piles
John Hill	Swelled hand
Frances Charles	Sore knee
John Goff	Contused toes
Wm Beach, John Wall, John Shepherd	Venereal
Thom. Harper, Levy Haines, John Teed, James Finn.	Sick

Admitted on the sick list this morning. 3, viz
James Duncity, with sick — George Abbot, incised wound of the foot, and John Fenton, with fistulous ulcer in rectum

(continued next page.)


Copies of Sick Reports of the Frigate United States, from the 7th of June, 1806, being the day on which I made my first report, to the 6th day of March 1810.

William P. C. Barton M. D.
Surgeon of the United States

SICK REPORTS OF THE FRIGATE UNITED STATES.

character like that of Dr. Barton, less heroic perhaps, but one whose influence in the direction of medical reform and sanitary improvement in the early Navy was unquestioned. His book first appeared in 1814, and the mere fact of its having achieved a second edition three years later is an indication of the estimation in which it was held. It contained a fund of information collected from various sources, both at home and abroad, and revealed an originality of thought and an independence of expression which stamped its author as far in advance of the times. A similar work by Dr. Edward Cutbush of the Navy had appeared in 1808, but this dealt with subjects in army administration as well as naval, and lacked the breadth and originality of view characteristic of Barton's book.

In the following biographical sketch I have endeavored to present the outstanding facts of Dr. Barton's career in the Navy, and particularly to reveal his work as a pioneer in the field of American naval medicine.

William Paul Crillon Barton was born in Philadelphia, November 17, 1786. He was the son of William Barton, Esq., Member of the Bar, and grandson of the Rev. Thomas Barton, an Episcopal clergyman, who came to America from Ireland in 1751, under the patronage of the Penn family. The Barton family was of English descent, originally from Lancashire, but having obtained extensive grants of land in Ireland, settled there during the Commonwealth or early in the reign of Charles II. The emigration of Thomas Barton took place when he was twenty-one, soon after his graduation from Trinity College, Dublin. He first opened a

school at Norristown, but later became a tutor at the Philadelphia Academy. In 1753 he married Esther Rittenhouse, the daughter of a neighboring farmer and a sister of David Rittenhouse, the distinguished mathematician and astronomer, whose close friendship Barton enjoyed until his death. He accompanied the expedition against Fort Du Quesne in 1758 in the capacity of chaplain and published a sermon dealing with the disastrous incidents of that affair. In 1759 he moved from York County to Lancaster, where, as rector of St. James, he remained for nearly twenty years, dividing his time between the duties of his office and the pursuit of natural history. Notwithstanding his friendship with Washington and other distinguished officers of the Revolution, he remained a Royalist and, declining to take the oath of allegiance to the new cause, was compelled to leave his post, going to New York. From that city he intended to proceed to England, but illness prevented and he died there on May 25, 1780. His widow returned to Philadelphia, making her home with her nephew, Dr. Samuel Bard, at one time physician to Washington.

William Barton, the eldest of Thomas Barton's eight children, and the father of William P. C. Barton, was a lawyer by profession, a gentleman of substantial literary attainments, the author of the "Memoirs of Dr. David Rittenhouse," and the designer of the United States Seal. He married Elizabeth, the daughter of John Rhea, a Philadelphia merchant and of their marriage several children were born, two of whom became distinguished surgeons, one the subject of this paper and the other John Rhea Barton, whose name is perpetuated as the originator of "Barton's bandage."

Another distinguished son was Dr. Benjamin Smith Barton, Professor of Botany at the University of Pennsylvania, and also, in later years, the successor to Dr. Benjamin Rush as Professor of the Theory and Practice of Medicine in the university.

Thomas Pennant Barton, a son of Benjamin Smith Barton, was also a man of cultivated literary tastes and achievements. It is noteworthy that he gathered together one of the best collections of Shakespeareana in America. These, together with some 10,000 miscellaneous books of his library, were acquired after his death by the Boston Public Library, where they are known as the Barton Collection.

From the foregoing it will be seen that the subject of this sketch came of a family of students, and as a contemporaneous writer has stated: "His forebears were eminently qualified to infuse into his mind the rudiments of knowledge and the principles of virtue."

Dr. Wm. P. C. Barton received his classical education at Princeton, graduating with distinction in 1805. Each member of his class assumed

the name of some celebrated character, and Barton chose that of Count Paul Crillon, whose initials he retained throughout life. He began a study of medicine under the direction of his uncle, Dr. Benjamin Smith Barton, and received his degree in 1808. His inaugural thesis was entitled, "A Dissertation on the Chymical Properties and Exhilarating Effects of Nitrous Oxide Gas and its Application to Pneumatick Medicine." This was considered worthy of publication and for many years was accepted as a standard treatise on the subject. Soon after graduation he made a translation from the Latin of Jacobus Gregory's "Dissertation on the Influence of a Change of Climate in Curing Diseases."

After practicing medicine in Philadelphia for about a year, during which time he became one of the surgeons to the Pennsylvania Hospital, he received an appointment as surgeon in the Navy, upon the recommendation of Dr. Benjamin Rush and Dr. Philip Syng Physick. He was for several years on active duty in the frigate *United States;* the *Essex;* at the Navy Yard, Philadelphia; as surgeon to the Marines at Philadelphia; at the Naval Hospital, Philadelphia; on the *Brandywine;* the Naval Hospital, Norfolk; the Naval Asylum, Philadelphia; as Chief of Bureau of Medicine and Surgery; at the Naval Hospital, Pensacola, and as president of the Board of Medical Examiners at Philadelphia. He distinguished himself by his professional skill and his scholarly attainments, and particularly by his bold and fearless advocacy of necessary reforms in the medical department of the Navy and the improvement of the status of the naval surgeon. During his periods of shore duty he was not content to pass his time unemployed, but devoted himself with marked professional ardor to the publication of various works, some growing out of his naval experience, like that on "Marine Hospitals" mentioned above, and one entitled "Hints for Naval Officers Cruising in the West Indies," written in 1830, and others mainly on botany. In 1815 he was chosen Professor of Botany in the University of Pennsylvania, succeeding his uncle, and in later years he was connected with Jefferson Medical College in a similar capacity. He was also a Fellow of the College of Physicians, a member of the American Philosophical Society, President of the Linnæan Society, an Honorary Member and Surgeon of the First City Troop, and upon the creation of the Bureau of Medicine and Surgery in the Navy Department, Dr. Barton was tendered and accepted the appointment of chief of this bureau. He was, therefore, the first Chief of Bureau, though not the first Surgeon General of the Navy. This title was not created until 1869 and was first held by William Maxwell Wood. In fact Barton was much opposed to the adoption of the title Surgeon General, and in 1838, when legislation designed to create it was pending before Congress, he addressed a pam-

phlet to the members of the Committees on Naval Affairs of the Senate and the House of Representatives, entitled, "A Polemical Remonstrance against the Project of Creating the New Office of Surgeon General in the Navy of the United States." This publication reveals that he was also a corresponding member of the Imperial and Royal Academy of Agriculture of Florence; a member of the Linnæan Society of Stockholm and a lecturer on materia medica, botany, toxicology and naval therapeutics in the Therapeutic Institute of Philadelphia.

While Chief of Bureau he introduced many reforms, corrected numerous abuses and received for his services the warm recommendation and approval of the then Secretary of the Navy, the Honorable Abel P. Upshur. His attempts to improve conditions in the Medical Department, however, met with opposition and rendered him very unpopular with those whose interests or hopes were endangered by his efforts. He was not deterred, however, and in spite of resistance accomplished much in the direction of improvement of conditions in the Navy, both medical and non-medical in character. On March 20, 1844, after holding this office for eighteen months, he addressed a letter of resignation to the President praying for approval of his "earnest wish . . . to retire from the scene of unavailing efforts." He retained his naval commission, however, doing duty at Pensacola Hospital, but chiefly on the Medical Examining Board at Philadelphia, and at the time of his death in 1856 he had been for many years the senior surgeon in the Navy.

In September, 1814, Dr. Barton married Esther, daughter of Jonathan Dickinson Sergeant, Esq. (a member of the Philadelphia Bar), and a granddaughter of Dr. David Rittenhouse.

Of his character, appearance, and personal attributes, I have been fortunate in securing a reflection from several sources. The portrait which forms the frontispiece of this article was taken from what appears to be an enlarged photograph now hanging in the office of the Surgeon General of the Navy. This came from the Naval Medical School some years ago, but I have not been able to determine anything of its prior history. It is said by one of his descendants to whom the reproduction was shown to be a good likeness and represents his peculiar manner of dress, which even for the times was considered somewhat elaborate and eccentric. It is supposed to represent him as he looked about the time he was appointed Chief of Bureau. In a speech delivered in the House of Representatives, early in 1844, by the Hon. Alexander H. H. Stuart of Virginia, Barton was referred to, in connection with an investigation into the expenditures of the newly created Bureau of Medicine and Surgery, in terms which give us an idea of the impression made upon a contemporary by his manner and style of composition. Mr. Stuart stated:

I, like others, have been somewhat prejudiced by the artificial and involved style of his report submitted to the House; a prejudice by no means diminished by his manner and style of dress, equally unnatural and eccentric. But when I knew him better and heard and saw the improvements which he had introduced into the bureau, my prejudice vanished and I became satisfied he was a most capable and faithful officer.

The same speaker refers later to his "bold and manly spirit of independence, which induces him to shrink from no responsibility."

In the findings of his court-martial in 1818, a reference is made by the court to "the vehemence of his manner (which) imparted impressions his language and intentions would not warrant."

One of the most valuable comments on his manner and personal qualities appears in an address delivered before the Alumni Association of the Jefferson Medical College, on March 11, 1871, by Dr. Samuel D Gross, Professor of Surgery in the College and President of the Association. He refers to Dr. Barton in these terms:

The instruction in *Materia Medica*, during the two winters of my connection with the College, was delivered by Dr. William P. C. Barton, brother of Dr. John Rhea Barton, the eminent surgeon, and a nephew of Dr. Benjamin Smith Barton, formerly a professor in the University of Pennsylvania. He was, in all respects, a remarkable man: highly educated, learned in his profession, a graceful lecturer, and able writer and one of the most accomplished botanists in America. He abounded in flashes of wit, and a vein of irony and sarcasm was perceptible in almost everything he did and said. He had a passionate love of music and played with consummate ability upon the flute and violin. Many of his acts were marked by the eccentricities of genius. His style of lecturing was conversational, plain, simple and didactic, without any attempt at oratory, and his success as a teacher was all that could have been desired. In his appearance he was a model of neatness and elegance. He seldom wore the same coat, vest, or cravat on two successive days. In his criticisms of contemporaneous writers he was often severe and even bitter, especially when he had occasion to speak of a certain writer on *Materia Medica*, with whom he had long been on terms of open hostility. He would then, often with a peculiarly disdainful curl of the upper lip, fly off into the keenest satire and invective, much to the amusement of his young auditors, all of whom, with few exceptions, were warmly attached to him. It was his invariable practice, too much neglected in most of our schools, every morning to ask the class some questions respecting the lecture of the previous day.

. . . . . .

During my first summer in Philadelphia I was a member of Dr. Barton's botanical class, and usually attended him in his botanical excursions along the banks of the Schuylkill, visiting Bartram's Conservatories or rambling about in the open field in search of specimens. In these excursions he was always in his happiest mood, skipping merrily, like a humming-bird, from flower to flower. He experienced as great delight in the discovery of a new plant as Audubon did at the sight of an undescribed bird, or John Hunter, in the dissection of a strange animal. He was in fact a botanical enthusiast.

In attempting to find Dr. Barton's grave in Laurel Hill Cemetery,

Philadelphia, I was fortunate in getting in touch with one of his lineal descendants. This gentleman I met later and obtained from him much additional information, of a character which could not have been secured elsewhere.

Through his kindness I have been able to read a "Biographical Sketch" of Dr. Barton which was compiled in 1879 by one of Dr. Barton's daughters. In this she refers to her father as possessing "many personal attractions and accomplishments. He retained, even to advanced years, a great love for music and great conversational powers. His character was a happy combination of qualities which attracted all and repelled none. Of great courage without any bravado, of affability without servility, of true warm-hearted benevolence, his qualities of heart and of mind were well calculated to secure lasting friends among the good and true."

I also learned from him that Barton had assembled in his lifetime a very remarkable collection of musical instruments, which he recalls seeing as a child in the home on Chestnut Street. It was here that Barton lived and had his office. The house is still standing, but in reconstruction it has been joined to another, which has been built over part of the plot, formerly the garden of the Barton home.

The facts recorded regarding Dr. Barton's career in the service were found to be few and meager, particularly with reference to his service at sea, and the chief and most valuable sources of information regarding him were found in "Officers' Letters," scattered throughout many volumes, covering the years 1809 to 1848, which are filed in the Navy Department Library. These, together with allusions made in his writings to various incidents of his life and work, have constituted the main sources from which the facts of this sketch have been drawn.

The records of the Navy Department show that Dr. Barton was appointed a surgeon on April 10, 1809, to take rank from June 28. His letter of appointment also contained orders to the frigate *United States.* In a letter written from the Pennsylvania Hospital, and addressed to the Honorable Charles M. Goldsborough, Esq., Secretary of the Navy, he accepted his appointment and requested a delay of six weeks before joining the *United States* explaining that the delay was necessary to enable him to complete his term of service at the hospital, which ran to July. It is apparent from this letter that he felt a deep sense of obligation to fulfil what he considered an implied contract with the hospital authorities to remain until his period of service was completed, but his request was denied, for the "Sick Reports" of the *United States* show that he was already aboard that vessel on June 7, 1809. On June 10, 1809, Stephen Decatur, Jr., had joined the *United States* and hoisted his broad

pennant as commodore for the first time, and then began the friendship with Decatur which lasted throughout life. Very little has been found respecting Barton's service on this vessel, which apparently continued only until about November 10, 1810, for soon after that date he is found on the *Essex*.

Practically no medical records relating to the ships of this period are to be found in the Navy Department, but, by a mere chance, two thin volumes of the "Sick Reports" of the *United States*, in Barton's own hand-writing were found in the Library of the Naval Medical School, where they had been placed in 1905 by former Surgeon General Rixey, who had discovered them in a secondhand bookstore in New York.

In the early days of the Navy, although the regulations required the commander of a vessel to keep an official log, the Government did not furnish the log book. It happened, therefore, that a book purchased by an officer for this purpose was often regarded as personal property and taken away by him when detached from the ship. It is not improbable that a similar custom existed with respect to medical records. This condition of affairs may account for the absence of medical records covering this period and also for the fortuitous discovery at this late day of the "Sick Reports" of the *United States*. These reports ran from June 7, 1809, to November 10, 1810, and were entered in Barton's hand-writing in two small notebooks. A reproduction of the first two pages, showing the opening entries, appears in the text of this article. As one scans the pages of these small books it is surprising to note how sparse is the information to be obtained regarding the movement of disease or important daily events. Only one entry is made giving the location of the ship, that occurring on the second page, where it is noted as "Crany Island, Elizabeth River, Vir." Unfortunately, no record of the other ports or places visited is found. The usual day's record shows the name of the disease, complaint or injury, rarely in a scientific nomenclature, which is set opposite the name of the patient, and an entry is made of admissions and discharges for the day. The progress of a patient is sometimes stated in a word or two, such as "improving," "better," or "worse," too often the latter, and deaths are not infrequent. The prevalence of "typhus fever" is noteworthy and by this, of course, is meant the typhoid fever of later days, although the occasional sudden demise of a patient with "typhus fever" suggests *typhus exanthematicus*. In those days, as now, itch and venereal diseases occupied a conspicuous position in the sick returns, and the occasional appearance of midshipmen with the latter class of disease, with the added remarks, "reported to the commodore as rheumatism," denoted a kindly intention on the part of the surgeon to shield them from the stigma attaching to these affections.

On July 15, 1810, for the first time, Dr. Barton makes extended "Remarks," at the end of the day's record, as follows: "The dysentery and diarrhea are now and have been for the last ten days the prevailing diseases on board the ship. Most of the patients on the sick list with other diseases are more or less afflicted with these complaints in a slight degree. Neither of these diseases, however, are of a very violent nature." This constitutes the only clinical observation of any moment which I could discover in a review of the seventeen months' record contained in these reports. It is also quite remarkable how seldom mention is made of the transfer of patients to hospital. However, considering the character of the so-called hospitals then available, it is perhaps not surprising that he preferred to retain the sick aboard ship. Later in his career he urged improvement of naval hospitals with characteristic vigor, and a critical reference in his book on "Marine Hospitals," published in 1814, with respect to the hospital at the Navy Yard, Philadelphia, was the basis of charges, made by a brother medical officer, which resulted in the court-martial of Barton. The court, however, perhaps realizing the justice of his criticism, ruled that the specification covering the alleged offense need not be answered or refuted, and thus virtually exonerated Barton of this specification of the charge. Some of the entries in the "Sick Reports" are very obscure in their clinical and pathological significance. For instance, while there can be little question regarding the nature of the disease entered as "typhus," which caused the death of Wm. Rysela on July 6, 1809, since Barton has added "sick two months," what did James Williams 1st really succumb to on August 17, 1809, under the designation "nervous fever," when on the previous day he first appears as "very ill, typhus?"

Barton mentions in his work on "Hospitals" that he checked several cases of sea-scurvy on the *United States* by the liberal administration of lime juice. He had much to say later, after his cruise abroad in the *Essex*, of its virtues as an anti-scorbutic, and urged its adoption by our Navy, in an official report.

In the Preface to the first edition of his work on "Marine Hospitals," Dr. Barton refers to his attempts to bring about correction of the abuses and irregularities then prevailing in the Medical Department, by reason of what he terms "loose administration." As his statement there fully reflects his attitude toward the problems confronting him on the frigate *United States*, and his grave concern for the welfare of the sick, and the improvement of medical supplies, I cannot do better than quote it at length:

> Having entered the Navy as a surgeon when very young, and having been ordered to one of the largest ships in it, with a complement of 430 men, stationed in a warm

and variable climate—I soon found myself not a little embarrassed by the perplexities that I daily met with in my practice on board. The unhealthiness of the climate, operating upon a variety of different constitutions in an entirely new crew; the change of diet and mode of life; the necessary and unavoidable exposure of boats' crews to the fervid rays of a vertical sun, as well as to the damp and heavy dews of night, and at all times to the insalubrious exhalations of marsh miasma—all combined to generate such perpetual sickness, that the frigate might almost have been called a hospital ship—the average number on the daily sick-list, of fevers and fluxes, being about 40. In this situation, on board of a ship just refitted, commissioned, and equipped, I found myself without half the comforts and necessaries for the sick that the hospital department should have been supplied with; yet this department had been reported as replenished with every requisite article for a cruise of two years, and together with the medicine chest, had cost the government fifteen hundred dollars. There were neither beds for the sick, sheets, pillows, pillow-cases, nor nightcaps—nor was there a sufficiency of wine, brandy, chocolate, or sugar; and that portion which the storeroom contained of these articles was neither pure nor fit for sick men. The medicine chest was overloaded with the useful, and choked up with many useless and damaged articles. Such was the state of the medical department of this ship! Upon a representation of it however to her commander, Com. Decatur, he generously allowed me all the necessaries I stood in need of, and thus enabled me to administer those comforts to my patients, which they so much required. What would have been my situation, had the ship immediately proceeded to sea, for a cruise of eight or ten months, upon my joining her, and before I had an opportunity of examining into the condition of the medicine and store chests . . . which might have been the case, these having been reported as sufficiently furnished? What the consequence would have been must be obvious! The other ships were not better furnished than the one of which I am speaking—and I perpetually heard of complaints on this score.

What was the cause of these abuses? The want of a regular board of medical commissioners, whose peculiar province it should be, to order the proper proportions and quantities of medicine, comforts, and necessaries, for the publick ships, and who should have no interest, directly or indirectly, individually or collectively—in the furnishing of articles thus ordered.

As I was at that time a perfect novice in the routine of ship duty, and having then but recently left the Pennsylvania Hospital, an institution in which order, system, and punctuality, render the practice of medicine a pleasure, I was overwhelmed with the difficulties I had to encounter in the performance of professional duties, where every species of inconvenience and disadvantage that can be imagined was opposed to the exertions of the surgeon. My feelings revolted from the idea of continuing in such a perplexing and distresisng situation—and I became disgusted with the unavailing toil attendant upon ship-practice. I communicated my sentiments on this subject unreservedly to my lamented friend, the late Captain Wm. Henry Allen, then first lieutenant of the ship. I ventured, even at that early period of my naval service, to condemn the flagrant irregularities and abuses, that I could not but believe existed to a ruinous extent. In my conversations with him I often declared, that if such was always the deplorable condition of sick men on shipboard, I wished not longer to be their medical attendant; for my feelings were every moment in the day subjected to harassment and pain, from contemplating afflictions I was unable to relieve, for the mere want of comforts so easily procured on shore. He encouraged me, however, to persevere, and at the same time that he lamented with me the want of a superintending medical board, he tendered an offer of his assistance in making any

arrangements compatible with the internal economy of the ship, that I might deem calculated to meliorate the condition of the sick. I soon found that their situation was susceptible of much relief, even on ship-board—and I was not long concluding, that if proper steps were taken to furnish the ships with sick-necessaries of a proper kind, the practice of medicine and surgery in the navy could be rendered not only more beneficial to the sick, but less offensive to the humane feelings of the medical officer. I never lost sight of the opinion I had conceived, that the errors of the medical department of the navy might be easily corrected, and its abuses abolished."

Surgeon Barton's relations with Commodore Decatur and with the first lieutenant of the *United States*, William Henry Allen,[3] appeared to have been most cordial and harmonious. This is evidenced by the fact that Decatur, in 1813, applied to the Secretary of the Navy for Barton to be returned to the *United States*, and in 1817 he gave him a strong letter of recommendation to the then Secretary of the Navy, and both he and Captain David Porter of the *Essex* came to his aid in support of many of the reforms he had projected. Decatur in the letter of recommendation above-mentioned testified "to the great skill and attention and success with which he (Barton) practised during the above period" (1809–1810). Late in 1810, however, Barton appears to have had some disagreement with certain officers on the *United States*, the nature of which is not revealed, but the resulting situation made it expedient for him to leave the ship. About this time the *Essex* was preparing to sail for Europe, and since her surgeon, Dr. Stark, was on leave at some distant point inland and could not return in time to reach the ship before sailing, with Decatur's approval, and as a convenience to Captain Smith of the *Essex*, Barton left the *United States* and joined the *Essex*. It was during this cruise that he gathered much of the information regarding naval hospitals, and naval medical practice abroad, both in the navies of Great Britain and France, which appeared later in his writings. His observations covered a wide range of subjects, including the construction and arrangement of all the principal naval hospitals of England and France, their organization and administration; sanitary matters touching the naval services; methods of training medical officers; rations; character of supplies furnished ships, their construction, etc. He appears to have visited London from Cowes, Isle of Wight, where the ship was lying, and, while there, to have met the celebrated Dr. Lettsom, through an introduction from Dr. Rush, and to have inspected several hospitals. He mentions the homeward bound voyage of the *Essex*, which lasted two months, and speaks of the efficacy of an effervescing mixture of lime juice and salt of tartar for sea-sickness. This he admin-

[3] This is the same Captain Allen who commanded the *Argus* in her encounter with the British brig *Pelican*, August 14, 1813. The *Argus* had sunk 22 vessels off the British coast, but was defeated and captured by the *Pelican*. Allen died of his wounds at Mill-Prison Hospital, Plymouth, England.

istered to two passengers on board with great success. Other than the above, surprisingly few details of this period of his career were to be found in available material.

On June 30, 1811, he addressed a letter to the Hon. Paul Hamilton, Secretary of the Navy, requesting relief from sea duty and assignment to the Navy Yard, Philadelphia. He mentioned that he had been on sea service without any intermission since April, 1809, and had just returned on the *Essex*. He asserted his willingness to act in concert with, or subordination to, Dr. Cutbush, the surgeon in charge at Philadelphia, and, although a surgeon himself, was agreeable to service in a position which ordinarily would be assigned to a surgeon's mate. His extreme anxiety to return to Philadelphia apparently arose from a desire to establish himself in practice there, "the accomplishment of which is his dearest wish," to supplement his income, and help support his aged father and seven brothers and sisters. This he desired to do, moreover, while his uncle (Benjamin Smith Barton), who was in a precarious state of health, was still able to take him by the hand and introduce him into practice. He refers to his uncle as a man "the tenure of whose existence is fragile indeed . . . thus there is the brightest prospect of my professional success subject to the constant shadow of a very near cloud." His family is constantly in mind, and, as the eldest son, his concern for their welfare is often reflected in his letters. The pay of a surgeon at this time, including the value of two rations, was $62 per month, a sum wholly inadequate to the value of the service performed, and, of course, not sufficient to enable him to contribute materially to the support of his family. He speaks further of the difficulty aboard ship of keeping himself abreast the times professionally. "The unsettled and wandering life on board ship not only deters the gratification of professional ambition, but absolutely generates an inanition of mind very inimical to solid improvement of any kind. The sea does not subject me to any corporeal malady but really produces a spiritless inaction and mental debility which all the resolution I have been able to exert for better than two years has not afforded me the power to overcome." His appeal however, appears to have fallen on deaf ears, for he was not detached from the *Essex*, but did manage to get leave until September 1. A letter dated July 11, 1811, written from Baltimore, addressed to the Secretary of the Navy, refers to a bottle of lime juice which he is sending him by Lieutenant Ballard for trial "in the form of a lemonade, after allowing it to settle for a day or two." This is one of four dozen bottles which Barton brought back from England, and he explains that his object in sending the lime juice is to enable the Secretary to judge of the quality of juice used in the Royal Navy, which is the kind he wishes to recom-

mend for our own. He also mentions his intention to submit a report on this subject. This letter indicates that he had been in Washington and was on his way to Lancaster, but had been delayed in Baltimore on account of an attack of "summer complaint." On August 26, 1811, writing from Lancaster, he requests two months' extension of leave, and to be assigned to duty at the Navy Yard, Philadelphia. In this letter he makes the first reference to his intention of writing at length upon his observations abroad and upon a plan for the better government of the Medical Department of the Navy, and puts this intention forth as a reason for the change of duty requested. He also states his desire to take courses of study in the Pennsylvania Hospital. A reference is made in this letter to Mr. Latrobe,[4] whom he has asked to see the Secretary and support his request. But it is all to no avail, for a peremptory order from the Secretary, dated August 29, is sent to him to return as soon as possible to his ship, the *Essex*, at Norfolk. Barton answered this letter from Lancaster on September 4, and voiced his disappointment at not being accorded the leisure to complete his report, but states his intention of doing so at Norfolk. This letter reveals grave discontent at being continued on duty in the *Essex*, a vessel "smaller than the one he first joined when he entered the service," where "his services gave the greatest satisfaction to Commodore Decatur and the officers generally." As respects the latter, with some of whom he had been in disagreement, he states that there has been a reconciliation and he desires his transfer from the smallest frigate in the Navy back to the *United States*. He endeavors to reinforce his argument by adding that "the present surgeon of the *United States* was a surgeon of a cutter at the time I was in the station he now occupies." It is not unlikely that he received still another order from the Secretary to expedite his return to the *Essex*, for Barton wrote from Philadelphia, September 18, 1811, explaining the delay in his journey to Norfolk, as being due to a continuance of the affection which overtook him at Baltimore two months previously, and that he has written Captain Porter of the *Essex* to that effect. He encloses a physician's certificate in support of his statement.

A letter written October 25, 1811, from Norfolk, transmits to the Hon. Paul Hamilton, Secretary of the Navy, a number of sheets containing a plan for the internal arrangement of marine hospitals. This evidently is a further development of his proposed report, which finally grew into the book he published in 1814. The term "marine" hospital as used frequently by him was equivalent to the naval hospital of the pres-

[4] Benjamin Henry Latrobe, 1764–1820. An English architect who settled in this country in 1796. He became identified with the Navy Department as an engineer, and designed the first Hall of Representatives at Washington.

ent day. At that early period a distinction such as prevails at present did not exist. There were, it is true, "Marine" hospitals for merchant seamen, available to the Navy, which became separated from the Navy by the Act of February 26, 1811.

On November 2, 1811, Dr. Barton is back in Philadelphia, on leave, in order to attend the funeral of a brother. He appears to have traveled by water from Norfolk to New York, on this occasion, in the U. S. S. *Hornet*, then under command of Capt. James Lawrence, thence by stage to Philadelphia, leaving Norfolk October 26 and arriving in Philadelphia November 2, which for the times was quite rapid traveling. In the preface to his 1814 publication he refers to the trip on the *Hornet* and to his visit to Washington in July, 1811, when Mr. Hamilton called upon him to submit his ideas respecting the proper rules for administration of the service hospitals, which the Secretary was required to submit to Congress at its next session. The Act of February 26, 1811, had separated the Navy from the conjoint control of marine hospitals for merchant seamen and had authorized the establishment of distinct institutions for the Navy, but nothing was done until 1832 toward furnishing these hospitals, except to rent temporary structures near the principal navy yards. From that date naval hospitals slowly arose at the principal stations. It was this report containing suggestions for the internal organization and government of hospitals, requested by the Secretary, which Barton refers to in the preface of his book, as having been written "during a tempestuous passage from Norfolk to New York, in the *Hornet* sloop of war, with the ever to be lamented Captain Lawrence, under the disadvantages, too, of sea-sickness and acute mental affliction from the recent loss of a friend—a brother."

On November 18, 1811, Barton writes from Lancaster, where he had gone after his brother's funeral, renewing his request to be ordered back to the *United States*, stating that his action had the approval of Commodore Decatur, and quoting from a letter received from Mr. Allen, first lieutenant, in substantiation of their desire to have him. This letter, which is addressed to the Secretary, also mentions the intention of the writer to leave Lancaster for Philadelphia on November 19, on his way to Norfolk. His failure to return promptly to his post of duty called forth peremptory orders from the Secretary, dated November 23, and Barton replied from Philadelphia on November 27, in effect, that he considers the Secretary's reprimand for not obeying orders as entirely unmerited, and he enters into a long explanation of the circumstances surrounding his transfer from the *United States* to the *Essex* in November, 1810. His delay at Philadelphia he states is due to information received from Norfolk that the *Essex* is coming up the Delaware, and that

he has remained there to await her arrival. There is a feeling of resentment plainly apparent in this letter to the Secretary which may have had its origin in the knowledge on the part of Barton that the Secretary recently had written Dr. Benjamin Smith Barton, his uncle, and referred to Barton as "too much indulged."

Still on the *Essex*, then at Newport, Rhode Island, on December 26, 1811, Barton writes to Mr. Latrobe, who has agreed to intercede with the Secretary on his behalf in the matter of receiving a twelve months' furlough. He repeats his desire to enter into practice at Philadelphia, but adduces another reason for the furlough, which has not hitherto come to light, although it may have been a powerful influence, in addition to others, in urging him to the repeated efforts he has made to secure the desired duty. This reason, "very dear to my heart," has to do with his engagement to Miss Sergeant, whom he mentions is a granddaughter of Dr. David Rittenhouse, and he asks Mr. Latrobe if she is not a connection of his. Barton encloses in this letter a communication from Captain Porter approving his request, which he asks Mr. Latrobe to present to the Secretary when he makes the plea on his behalf.

A letter of same date goes forward from Barton to the Secretary requesting the furlough of twelve months "in order to get married and also to assist in the support and education of his youngest brother." He suggests a Dr. Miller as his relief on the *Essex*. But his efforts prove fruitless, for Captain Porter receives a letter from Mr. Hamilton which amounts to a denial of Barton's request. On January 18, 1812, he renews his application but reduces the length of the furlough acceptable to him, from twelve months to four or five months. On the 21st of January, not having had any reply to his previous letters, he writes he will take any length of furlough which will be agreeable to the Secretary. On January 22 he addresses the Secretary again requesting the return of the hopital plans forwarded October 25, 1811, and refers to additional work which he is doing in connection with them. On January 24, he informs the Secretary that his father has requested him to resign, but states his unwillingness to do so, on account of a promise made to his uncle not to leave the service until after he has completed his book on Marine Hospitals and the Medical Department of the Navy. On February 13, 1812, not having had any reply to his letters of the 18th, 21st, and 24th of January, addressed to the Secretary, he sends him duplicates and also encloses a copy of Captain Porter's letter. As a possible relief for him on the *Essex* he suggests Dr. Daniel Hatfield of the *Nautilus*. The next letter is dated March 8, 1812, and in this he reports himself as ill in sick quarters at Newport, Rhode Island, with an "affection of the heart," and desires that a surgeon's mate be sent to the *Essex* as a substitute dur-

ing his illness, and to relieve the surgeon of the *President* of the necessity of looking out for the sick on the *Essex*, which he has done for two months. On March 20, 1812, Captain David Porter of the *Essex* wrote him the following letter:

> It is with much pleasure I acknowledge the receipt of your highly gratifying letter of this date and it is the source of the most pleasing sensation to receive the testimony of the approbation of one whom my duty and inclination both prompt me to esteem for his strict attention to his profession and for his character as a gentleman. I cannot but regret the unpleasant circumstance that now renders your absence from duty necessary and offer you my best wishes for the speedy restoration of your health and assurances of the extreme pleasure it would afford me to have you again attached to my command.

On March 21, Commodore John Rodgers, on the *President*, granted Barton a furlough of five weeks for the benefit of his health, on the expiration of which he was desired to return to the vessel to which he was then attached. On April 3, 1812, Barton was ordered to the Navy Yard, Philadelphia, as assistant to Dr. Cutbush, and the next letter from him to the Secretary is dated at Washington April 4, 1812. In this letter he refers to certain "Rules and Regulations for the Government of Naval Hospitals," which apparently the Secretary had submitted to Barton for criticism. He addresses his reply through Mr. Goldsborough and expresses his unqualified approval of the "Rules." His duty at Philadelphia was not long undisturbed, for on June 22, 1812, he was ordered to the brig *Argus*, with an intimation that after a short cruise he might expect to return to Philadelphia. His reply by letter dated June 24, 1812, complaining of his treatment since being in the service and protesting against being assigned to a brig after service in a frigate, apparently had the desired effect, for there is no evidence that he went to the *Argus*; on the contrary, several letters from Dr. Cutbush to the department during the succeeding months make references to Barton in connection with duties at the Navy Yard, or vicinity. His official record, however, shows that on February 20, 1813, he was ordered to the *United States*, but these orders were revoked for reasons which appear later.

On January 1, 1813, Lieut. John B. Nicholson, who was with Decatur on the *United States*, then at New York, had written to Barton as follows:

> The Commodore is in want of a *Surgeon* and has requested me to write you on the subject, and if you will go again in this ship *in that situation*, you will be *so good* as to write me *immediately*, and he will then apply for you to the department. Although so long silent, believe me, I have often thought of the many pleasant moments passed in your society, and I as well as my mess will be happy to call you by the endearing name of mess-mate and friend. To Spencer Sergeant will you give my respects, and believe me to be your friend.

What answer Dr. Barton made to this letter is not known, but subsequent correspondence from Decatur to him makes it plain that he declined the appointment. On March 11, 1813, Commodore Decatur wrote him as follows:

> Enclosed is a letter which I have received from the Navy Department with instructions to forward it to you. I apprised the Secretary of the reasons which you had urged to me, to induce the recall of the order you were under for my ship. I stated to the Secretary, that if they struck his mind with the force they had mine, you would be gratified in your wishes, and some other gentleman substituted. Will you have the goodness to let me know your determination on the subject as soon as possible. Your friend and humble servant, Stephen Decatur.

The enclosure referred to in this letter was in all probability the Secretary's order, which reads as follows:

> Com. Decatur wants a Surgeon, and from his confidence in your abilities, he has asked that you might be ordered to his ship. Anxious as I am to give him a Surgeon acceptable to him, I have to direct that you will proceed to New York and place yourself under his command. W. Jones.

I have given this correspondence at some length, since Barton's declination of sea duty in time of war subjected him to severe criticism, openly expressed in later years, when he was Chief of Bureau, by his enemies, of whom he appeared always to have a liberal number, who were active at the time in attempting to legislate him out of office. In 1843 a Proviso was attached to the Naval Appropriation Bill which provided that any appointee as Chief of Bureau, in order to be eligible, should have completed at least five years' service at sea. The effect of this, if passed, would have been to vacate the offices of two Chiefs of Bureau, of which Barton held one. In defense of his position and in answer to the criticism that he had refused service in time of war, Barton addressed a letter to the Hon. George Evans of the Senate in which he referred to his declination to go to the *United States* in the following terms:

> The only order he received during the war was one to Commodore Decatur's ship. That officer was the embodiment of honor and heroism, and *that officer obtained a revocation of that very order*, under a full knowledge of all the circumstances of the then employment of the undersigned in Army duty, as well as Naval duty; and with a knowledge too of the state of his health, then improving but not reinstated. . . . If such a man as Decatur saw no wrong in the declination of the order to his own ship; if he undeviatingly bestowed his respect on the undersigned, from the first of his acquaintance with him until the day of his death, can any other man in the Navy be justified in an attempt to impugn the reputation of the undersigned on that ground?

The reference to "Army duty" in this letter brings to light the fact that in 1812 and 1813 while on the Philadelphia station he had offered to perform the duties of surgeon to the different recruiting rendezvous of the Army District.

The District Orders of February 1, 1813, read:

His (*i. e.*, Barton's) certificate is necessary to pass a recruit and no other physician was to be called upon to visit and pass enlisted soldiers, except in circumstances which will not admit of delay.

In his work published in 1814, he refers to this service as follows:

In the first year of the present war I examined 2,000 recruits in the city, and from the neighborhood of Philadelphia. Twelve hundred only of this number did I pass as able-bodied men; and of the rejected number, 800, more than two-thirds were refused on account of rupture.

On May 10, 1813, Dr. Cutbush having secured his own transfer to duty in Washington, Dr. Barton made application to succeed him at Philadelphia. It does not appear that this request was denied, and at any rate he appears to have remained near Philadelphia, carrying on his service duties, Army and Navy, pursuing his practice, and delivering his lectures as professor of botany at the university. In addition he did a prodigious amount of writing and published several books. In a letter to the Secretary dated May 25, 1813, he voices his concern at the insufficient accommodations for the sick at the Navy Yard. He states that the small building appropriated to the reception of sick, calculated to accommodate eight patients, now has twenty-four sick sailors, and suggests the necessity of some temporary arrangement. Commodore Murray declined entering into any measure without instructions from the Secretary, but approved of Barton's writing to represent the matter, and, as a result, the Secretary authorized the erection of a frame building. It was his strictures on the sick quarters at this yard, appearing in his book published the next year, which Dr. Harris objected to as reflecting upon Dr. Cutbush and which led to Barton's court-martial in 1818. It is interesting to note just what Barton said in this connection, and see how far his contemporaries bear him out with respect to the standards of sick accommodations available in the Navy at that time. He states:

I have myself seen among a number of sick seamen with whom I was left in charge at the navy yard of this place (Philadelphia) where they were necessarily huddled into a miserable house, scarce large enough to accommodate the eighth part of their number—a spirit of impatience. . . . So wretched was the hovel and so destitute of every necessary comfort for sick persons, in charge of which I was left with thirty patients . . . that every man who gathered sufficient strength . . . absconded immediately.

On March 17, 1820, Commodore John Rodgers, then president of the Board of Navy Commissioners, addressing the Chairman of Naval Affairs of the Senate, represented the inexpediency of blending navy and marine (merchant) hospitals, and speaking of the temporary hospitals at navy yards, he stated, as follows: "Cheerless and comfortless as they are, they are yet preferable to hospitals provided for seamen of the merchant marine."

This comment on temporary hospitals, it will be noted, was made some seven years after Barton's statement. A letter from Captain Chauncey, December 24, 1810, then in command of the Navy Yard, New York, to the Secretary of the Navy may be quoted as indicating the character of the sick quarters on that station:

> I conceive it to be my duty to avail myself of this opportunity to call your attention to the situation of the sick on this station, and the particular hardship upon officers who may contract disease in the execution of their official duties, to be obliged to take lodgings at great expense, which frequently subjects them to pecuniary embarrassment, or to be placed in common with the sailors and marines in a large room that is neither wind nor water tight. To give you some faint idea of what is called the hospital on this station, imagine to yourself an old mill, situated upon the margin of a millpond where every high tide flows from twelve to fifteen inches upon the lower floor and there deposits a quantity of mud and sediment, and which has no other covering to protect the sick from the inclemency of the season than a common clap-board outside without any lining or ceiling on the inside. If, Sir, you can figure to yourself such a place, you will have some idea of the situation of the men on this station.

It does not appear, therefore, that Dr. Barton in his statement of fact regarding the sick quarters at Philadelpnia had represented a condition which was peculiar to any one place in the naval establishment of those days, but one more or less characteristic of several. On September 20, 1816, there appears a letter in the files of the Navy Department from Dr. Barton, enclosing one from his father, both of which were addressed to James Monroe, then Secretary of State. These letters solicited a favorable recommendation of Dr. Barton to the notice of the Secretary of the Navy, the Hon. Benj. W. Crowninshield, or to his assistant, Mr. Homans. Whether as a result of this correspondence or not is not certain, but on September 30, 1816, Dr. Barton was ordered to report to Commodore Murray at the Philadelphia Navy Yard for duty, presumably as surgeon to the marines. On November 7, 1817, he attained his real goal, by being ordered to the Naval Hospital, superseding a junior, Dr. Thomas Harris, in that position. This supercession of Dr. Harris created ill feeling on the latter's part and led to the court-martial of Barton in January, 1818, on charges preferred against him by Harris. The circumstances preceding this action were rather complex, but somewhat as follows: In November, 1817, Dr. Barton's father had succumbed to his last illness at Lancaster, and after settling his father's affairs there, Barton had proceeded to Washington, armed with a letter of introduction from Richard Rush, Esq.,[5] to President James Monroe. Barton duly presented his letter, made his call on the President and asked for a more extended interview, which was granted him on the evening of the same day. At this interview Barton pressed his claim for duty at the

[5]Secretary of State under Monroe, later Minister to Great Britain.

Naval Hospital at Philadelphia. With President Monroe favorably inclined toward him, and armed also with a letter from Decatur to the Secretary, recommending him "for any vacancy that may exist in the line of his profession," he approached Mr. Homans, acting in Mr. Crowninshield's absence, and his orders to the hospital soon followed. In acting in the manner described, Dr. Harris considered that Dr. Barton had treated him unfairly, and he proceeded to bring charges, founded partly on this incident and partly on the statement in his book, derogatory, as he thought, to Dr. Cutbush, which has already been alluded to. While the charges against Barton were pending, he received a note from Commodore Alexander Murray, in command of the Philadelphia station, asking for his resignation, or, as an alternative, an order of arrest. Barton's reply, I think, is worth quoting:

> Sir: "I have received your note of the 10th Dec. 1817, by Capt. Brown, in which you say, 'Capt. Brown is empowered by me to offer you the alternative of resigning your commission as surgeon in the Navy of the United States or to hand you your arrest'; and in reply to it I have to say, that conscious of the strictest propriety in my conduct relative to the station of Hospital Surgeon of this place, I have not one minute's hesitation in rejecting the alternative proposed."

The court-martial which was convened at Philadelphia, January 7, 1818, charged Barton with "conduct unbecoming an officer and a gentleman," with two specifications in support of the charge, the first of which related to a statement in Dr. Barton's book on "Marine Hospitals," previously mentioned, criticizing the condition of the hospital at Philadelphia, which Harris claimed tended falsely to degrade the character and reputation of Barton's predecessor there, Dr. Edward Cutbush, who at the time was surgeon in charge. The court ruled that no answer or refutation need be made to this specification of the charge. The second specification of the charge was that Barton had, while surgeon to the Marines at the Navy Yard, Philadelphia, "insidiously solicited and procured Dr. Thomas Harris to be superseded and removed from his place at the hospital, and obtained it for himself." It appears that Barton had "jocosely" remarked to Harris some time prior to the time he was called away to attend his father's funeral, that he (Dr. Harris) had better look to his position at the hospital, as he intended getting it for himself if he could, especially as his seniority entitled him to it. The court decided that the charge was sustained "to a certain extent only" and acquitted Dr. Barton of having uttered a wilful and deliberate falsehood. "The court deemed it derogatory, however, to the honor of the service, . . . this shuffling for particular places, presumed to be given according to seniority or merit and which should ever be left to flow from the spontaneous choice of the guardians of our interests and our

rights," and sentenced the accused to be reprimanded by the Secretary of the Navy. The court also stated in the letter of reprimand that they "were peculiarly struck with the number and weight of testimonials adduced in relation to your talents, your usefulness, and, heretofore, honorable deportment."

This court-martial was unique in many respects, particularly in that President Monroe was summoned as a witness for the defense. On the back of the summons he stated that official business would prevent his appearance, but he submitted full answers to the interrogatories sent him, and these were favorable to Barton. On his trial Dr. Barton introduced a long forty-eight page letter of defense, which is a remarkable literary production, unfortunately much too long to include here, but I think his final peroration is worthy of presentation:

> I yet firmly believe the reality will sooner or later appear. There is an invincible strength and boldness in truth that rends whatever cloak dishonesty may put over it; and despite of every untoward effort to conceal it from view, it fearlessly shows its face! Well for the innocent that this is so and woe to the one who meddles with and disturbs the calm and consistent operation of honest policy! A short-lived triumph may be his boon, but remorse must soon destroy it, and in the fullest conviction I believe with the poet:
>
> There surely is some guiding power
> Which rightly suffers wrong,
> Gives vice to bloom its little hour
> But virtue late and long!

The letter of introduction from Richard Rush to President James Monroe, which has been referred to above, contained sentiments of warm esteem and appreciation of Barton's professional standing. It refers to him as enjoying and in a very high degree deserving "the respect and esteem of all who have had the pleasure of his acquaintance. In speaking of his service in the Navy, Rush states that "he (Barton) exercises its duties (*i. e.*, duties of his calling) with equal credit to himself and advantage to the service . . . the opportunities of a long acquaintance enables me to certify, in the warmest terms to his permanent worth." In answering the interrogatories sent to him by the court, President Monroe referred to Dr. Barton as follows: "My own impression was also favorable to him, proceeding from what Mr. Rush had said, from my great respect for some of his relations, distinguished for their literary attainments, and the interest I took in the welfare of his mother. My impression now is that the doctor urged his claim in his observations to me with delicacy towards his opponent and modesty to himself."

Between the years 1814 to 1818, during his period of duty at Philadelphia, he completed and published two works on botany, one, the "Vegetable Materia Medica of the United States, or Medical Botany," con-

taining a botanical general, and medical history of medicinal plants indigenous to the United States, a two-volume work, and the other the "Compendium Floræ Philadelphiæ," containing a description of the indigenous and naturalized plants found within a circuit of 10 miles of Philadelphia, also in two volumes. On October 17, 1814, he read a paper before the Linnæan Society, of which he was president, on Holcus bicolor, a plant used in Lancaster as a substitute for chocolate. In the year 1820, there appeared his "Memorial from the Professor of Botany in the University of Pennsylvania, to the Trustees of that Institution," praying for the removal of the professorship of Botany from the faculty of Natural Science to the Medical faculty, and urging that botany be added to the subjects requisite for the attainment of a medical degree.

These works reveal Barton as a scientist of great ability and are evidence of his zeal in rendering available a knowledge of the general and medical botany of the United States.

Barton's fellowship in the College of Physicians lapsed for some reason in June, 1822, and, while there is little evidence to support this view, it is thought that this may have been the result of some local disagreement growing out of the movement to found another medical school at Philadelphia about this time. As early as 1818, Barton had endeavored to obtain a charter for a new medical college, but this was strenuously opposed by friends of the University of Pennsylvania, and the efforts of Barton and his associates proved unsuccessful. Seven years later, however, the Jefferson Medical College was established.

At this time or a little later Barton appears to have been placed on half pay, and in 1823, there is evidence that he lost even this income from the Government, for in a letter addressed to the Secretary of the Navy, dated April 26, 1823, he refers to being "cut off from pay by Act of Congress one year ago." In speaking of his circumstances in this letter, he refers to his writings as quite unremunerative, and of his salary as Professor of Botany as being only $120.00 a year, but even this has not been available for the present year as there was no class in botany. The letter finally leads up to a request to be allowed to remain in Philadelphia for financial reasons, and because of the state of his health, which is attested as unsatisfactory by three physicians whose certificates he encloses. On April 23, 1823, in spite of the foregoing, he is ordered to proceed by water to Norfolk and join the *Congress*. A letter follows, promptly written to President James Monroe, requesting the revocation of the orders, on account of an engagement he has entered into to finish a book entitled, "A Flora of North America," which it develops is dedicated to Monroe. This book is to be illustrated by colored figures, drawn from nature by Barton, and colored by his wife. His orders to

the *Congress* were revoked May 1. On November 29, 1824, he writes to the Secretary offering free instruction in botany to any medical officers who may be stationed in the vicinity of Philadelphia. On the back of this letter is a pencilled approval by the Secretary, with directions that instructions be written to surgeon's mates in Philadelphia to avail themselves of the offer. On May 12, 1825, orders were issued to Dr. Barton, for duty at the "Navy Yard and Station, Philadelphia." These orders probably referred to his duty with the Board of Medical Examiners established there about this time, as correspondence between Barton and the department now begins to appear, dealing almost exclusively with matters pertaining to this board, and the letters extend over the succeeding four or five years. It was during this duty that Barton sought for and obtained substantial improvements in the methods of securing properly equipped medical officers for the naval service, and also, largely through his efforts, that certain professional qualifications were required for promotion. His interest in this subject is very well expressed in a letter dated March 11, 1831:

> Conceiving it of the utmost importance that a surgeon of the Navy should be a man of an exceptional character and habits and good education, either by the usual academic opportunities or such other successful exertions, and conceiving also that his literary acquirements should be so respectable that he may not disparage, by comparison, the literary and scientific character of his country, when he shall come by conversation and professional intercourse with the enlightened medical officers of the English, French and Spanish navies and armies, to invite such comparisons, the board determined that it was proper and would prove useful to meritorious individuals, and certainly beneficial to the service, to require of each candidate for promotion answers and documents asked for in the accompanying circular. (Certificates relating to moral character, etc.) Several have immediately complied in a manner not only altogether satisfactory but redounding to their credit in the eye of the department, when their credentials, which will form a part of the records of the proceedings of this board, shall come before you. It is presumed that those who cannot procure testimonials of correct habits and moral conduct do not deserve them, since the board believes that common, even-handed justice will oblige every conscientious surgeon to report truly the points of his assistant's behaviour on which he may be interrogated, especially as the requisition for such report is predicated on your instructions. The board have consequently decided that with your approbation the course commenced will be pursued. The board have directed a similar circular to be addressed to candidates for admission.

On May 4, 1829, orders were issued to Barton for sea duty in the Mediterranean squadron, but they were revoked on May 18, for reasons which are not revealed. A letter written May 30, 1829, to the Hon. John Branch, Secretary of the Navy, acknowledged the receipt of an order appointing him a member of a board of three medical officers required by a resolution of Congress to give separate opinions on the necessity or expediency of distilled spirits constituting a part of the ration

allowed midshipmen, and on September 16, he transmitted his report on this subject, with a statement in explanation of the long delay, saying he desired to hold his report in order to reflect upon his conclusions sufficiently, and to change them, if more mature consideration seemed to warrant. But he stated that his opinions, as framed originally, were unchanged. The views he held on this subject are expressed in full in his book, "Hints for Medical Officers Cruising in the West Indies," published in 1830. In a footnote in this book he refers to the above reports, and states that—

> A more robust and vigorous state of health could scarce be found, than generally prevailed in the steerage . . . and yet these gentlemen are well deserving the remark, one and all, of most entire temperance; having drunk water only in their messes, during the whole cruise. . . . The point of temperance just noticed shows how much good a medical officer may effect, by precept seconded by example. I instilled the importance of temperance—my pupils knew me to be their friend. They gratified me by acquiescence. They were healthy, happy and have been commended by the department for their example. . . . If any medical man of the Navy would expect to be valued for any advice, relative to temperance, he must set the example by his own habits, of the precepts he would inculcate. If a medical officer shall drink brandy, with what face can he recommend other officers to discard it as pernicious? If any professional men are imperatively called on by every sense of duty and propriety, to practise temperance, it is the medical officers of the Navy. So much do I despise this practice in medical men, especially of the Navy, that I shudder when I see one take brandy and water. I do more, I fear and mistrust his professional efficiency and skill. I unhesitatingly declare, that I will ever strive by my vote and influence to keep out of the corps any who may desire to enter it, whom I may have reason to believe addicted to so dangerous a license in his habits. And I also declare I will never give my vote, if I am on the board of examination, for the promotion of any assistant to the rank of surgeon, whom I know to forget, by habitual stimulation, what is due to the high trust reposed in him; and this I would do, let his talents or qualifications be ever so good. For, how long could they be useful to himself or the service? Besides this consideration, his bad example is ten fold the more hurtful, by reason of his being a medical man. A brandy-drinking *physician*! I cannot conceive of such a thing—I will not admit it to be possible. I trust there are none in the Navy. If there be, shame on them to smirch their calling. If, I repeat, there be any "*bingo*" or "*blue ruin*" doctors in the Navy, they should not be there.

On December 27, 1829, he acknowledges receipt of a letter from the Secretary which directed him to hold himself in readiness for duty on the *Brandywine*. This vessel was fitting out for special service in the Gulf of Mexico, and on January 4, 1830, Barton reports for this duty to Commodore Isaac Chauncey at New York. He remained on the *Brandywine* until July 12, 1830, and then was on leave until September of that year. It is probable that he employed this interval in writing the "Hints for Naval Officers," mentioned above, which was published in September, 1830. The *Brandywine* proved to be a damp, hence a sickly ship, and during the cruise she was exposed to all the malign

influences attributed to a West Indian climate, from which, however, the personnel came home in much better condition than was usual in those days. In the "Appendix" to his "Hints" appears a letter dated March 10, 1830, written on the *Brandywine* (near Sandy Hook), addressed to the commanding officer, Captain Ballard, which makes it clear that Barton was fully aware of the difficulties of maintaining the health of a ship's crew during a cruise in the West Indies in those days, and that he was keenly alive to many of the principles of hygiene which must be applied to safeguard health while there. His views regarding the non-contagiousness of yellow fever followed those of Rush, but he states its causes as plural, "the sun, the dews and the rains."

The ship had passed the winter in a northern climate, a season characterized that year by great severity and unusual length. As a consequence, the whole crew was transferred from the receiving vessel with heavy colds. The following day presented a sick list of fifteen, In one week there were forty, and after the lapse of a few days more, the sick had mounted to fifty-eight. "With two or three exceptions, all of these were afflicted with the diseases arising from intense and continued cold; such as frosted hands, fingers, toes and feet, chilblains, pleurisies, pneumonic affections, etc. One midshipman and five men were sent to the naval hospital with scarlet fever for the indispensable benefits of fire and other comforts. . . . In view of this state of the crew and of the fact that the ship will be in the West Indies during the season most favorable to the fatal endemic disease of that region, I cannot withhold the opinion—that a disastrous result of the cruise will most probably attend its termination." Barton therefore advised the continuance at sea as much as possible and the avoidance of Havana and other unhealthy ports. On July 7, 1830, the ship was back in Hampton Roads, having visited Santo Domingo, Havana, Vera Cruz, Tampico and Pensacola. During the cruise 488 sick had been admitted to the list, comprising various ailments, but including:

> A great proportion of cases of typhoid, pneumonia, scarlet fever, low fever of tertian and quartan types, diarrhea and rheumatism, diseases generated by dampness. When this dampness became a heated moisture as it soon did in the West Indies, the cases of fever were of extremely dangerous aspect, and the pneumonic and anginose affections general, and excessively distressing and difficult to manage. Sore throats running to ulceration, with dejected spirits and low state of the system, accompanied more or less, all the cases. I attribute the sickly condition of this ship . . . chiefly to an unpropitious winter . . . a foul hold and lower apartments, a bilged well, and perhaps some other causes not now necessary to be mentioned. . . . Had the *Brandywine* continued two or three months longer in the West Indies, I have no doubt that the yellow fever would have made sad havoc amid her officers and crew. Such a damp, ill-ventilated and wet ship should not again be sent thither.

In spite of the insalubrious record of the ship in a previous cruise, during which she lost forty of her crew from disease, Barton reports only ten deaths, and of these only two died from "fever induced by the climate," which Barton alleged was not yellow fever, as the cases "wanted the gastric affection of that disease."

As there was considerable evidence of a foul hold, after arrival at Norfolk, and upon Barton's urgent representation, the ship was evacuated of personnel and the hold broken out. This was found to be in an excessively foul condition. On the expiration of his cruise on the *Brandywine*, on July 12, 1830, Dr. Barton was granted unlimited leave, but on September 2, 1830, he received orders to the Norfolk Hospital, and here he remained until December 1, 1831. Little is to be found reflective of his activities during this period. Soon after his arrival there he requests that a suitable boat and boat's crew be furnished the hospital, and there is correspondence with the department relative to the rations of hospital patients, and their laundry. For a number of years subsequent to his Norfolk duty, Barton was president of the Medical Examining Board at Philadelphia, in which position he introduced many reforms governing the examination requirements for candidates for admission, and for promotion. In this work he always had the interests of the service at heart, but he was by no means blind to the individual officer's rights and privileges.

On June 10, 1833, he writes to the Secretary of the Navy stating that a vessel had just arrived from Manila, on which is a Dr. Burroughs, who has a limited quantity of essential oil of camphor and oil of cajuput. This he states was the first importation of these medicines into America, and Barton being anxious that the Navy should benefit from an opportunity to test their reputed virtues, particularly the oil of camphor, said to be a sovereign remedy for cholera, recommends the purchase of a few bottles. The camphor is quoted at $15.00 per bottle and the cajuput at $22.00. The Secretary's pencil memoranda on the back of Barton's letter approves the purchase of two bottles each of these medicaments, and suggests that their contents be split up into a number of smaller bottles for distribution to the service, the larger number to go to the hospitals at Norfolk and New York. We hear nothing, however, of results of the use of these remedies. In 1827 Barton published another book entitled, "Outlines of Lectures on Materia Medica and Botany delivered at the Jefferson Medical College, Philadelphia," and in 1833, the "Prodrome of a Work to Aid Teaching of the Vegetable Materia Medica by the Natural Families of Plants in the Therapeutic Institute of Philadelphia." It was the latter to which he referred in a letter written in December, 1833, asking whether the department would purchase this vol-

ume in a number sufficient to provide one for each surgeon and surgeon's mate in the service. The action of the Secretary on this request is not recorded. In March, 1836, there comes to light a letter to the Secretary which deals with an interesting incident, namely, the duel of his son, Midshipman Charles Crillon Barton, with another midshipman, while serving in the eastern Mediterranean under Commodore Jesse Duncan Elliott. Young Barton was badly wounded and remained in Smyrna for over a year under treatment and awaiting transportation home. He is under arrest for trial for duelling, and his father prays for his release, basing his appeal for this action largely on the unusual circumstances of the duel, and Commodore Elliott's treatment of young Barton, which he alleged was inhuman. Barton's letter is a most eloquent appeal, and is moreover instructive as showing his views on duelling, "That it is an evil," he states "admits of no disputation."

On September 6, 1836, Dr. Barton declined an offer of duty as Fleet Surgeon of the Pacific under Commodore Ballard, alleging as reasons that he is the only support of his mother, now seventy-seven years of age, and of other members of his family, except his brother, who is about to leave for Europe to be gone two years. His reluctance to accept orders to this station may have been due also to the fact that he had made a cruise with Captain Ballard in the *Brandywine*, and their relations then had not been altogether happy. He refers to this in a letter written to the Secretary of the Navy, from Pensacola, September 1, 1848, in which he seeks to justify himself for having acted independently of the commanding officer of the station in a matter which he considers was one concerned solely with the internal administration of the hospital, namely, the proper apparel of the slaves employed as attendants, who are "not only destitute of decent vestments but in absolute rags." His reference to Captain Ballard is as follows:

> My personal relations with them all (*i. e.*, his commanding officers) with the single exception of Captain Ballard, were harmonious and kind, with an interchange of social courtesies. I have always believed and said that the medical officer who cannot get along harmoniously and in common interest for the good of the sick, must look to himself, almost always, for the fault.

On December 28, 1836, he transmits to the Secretary a copy of the "Elements of Botany," by his uncle, the late Benjamin Smith Barton, which he has re-edited and to which he has added a biography of the author. He suggests that the book be added to the list of books for naval libraries of ships.

On February 8, 1837, he writes to Andrew Jackson, then President, urging the necessity of an increase in the surgeon's list. A similar communication was previously sent to the Secretary of the Navy and was

signed by a number of the senior medical officers in the service. On June 3, 1837, he acknowledges the receipt of an order to convene the Medical Examining Board (Board of Naval Surgeons) of which he is president, adding the following comment:

> Important as I think and always have though the duty of these examining boards, in reference to the respect and efficiency of the Navy, so far as these are involved in the education, skill, and unquestionable moral character and good habits of the medical officers who may be admitted, I shall use my strenuous efforts and my best judgment to execute faithfully and conscientiously the duty you have assigned me and to realize he virtual object of the law on which that duty is predicated.

In June, 1839, Barton was called upon by the Secretary of the Navy for his ideas on recruiting and physical standards of recruits. This was a subject in which he was keenly interested, and in his work on "Marine Hospitals" he had written at length on the defects of the system of recruiting in vogue and suggested many improvements. In his letter to the Secretary he invites attention to the fact that existing regulations require a second examination of recruits by surgeons of the yards before the recruits can be receipted for by the commanding officer of the receiving vessel. The object desired is the exclusion of unfit subjects from the service. The recruiting surgeon ought to be a responsible examiner.

> If the medical recruiting service is to be revised and amended it ought to be thoroughly done, so that responsibility will be placed where the specific duty naturally places it, with the recruiting surgeon. I think the present received understanding of the nature and object of the second examination has a tendency to lead to laxity in either the recruiting surgeon or the second examiner, which must be prejudicial to the service, since a division of responsibility in any duty leads to such effect.

On August 17, 1841, he acknowledges receipt of an order for duty at the Naval Asylum, Philadelphia, as attending surgeon. On August 19, 1841, he urges reforms in the uniform dress of medical officers and requests permission for them to wear one and two epaulettes, enclosing engravings of army uniforms and regulations for medical officers of the Army governing this subject. He refers also to the discrepancy in pay between medical officers and those of the line, and the difference existing between them as regards promotion.

> I now presume from length of service to prefer for my colleagues more especially, as I am free to confess that I have no desire myself for any distinction or embellishing dress of any kind, but recollect when I was young how I thought and felt on this point. I ask for others what I did not myself crave. I submit a plan for uniform and epaulettes which I trust you will find in good taste.

Barton was not an advocate of the principle of selection in the promotion of officers, and he inveighs against it vehemently. In

doing so he does not deny that recommendation to preferment should be based upon merit also, but he insists on combining service with this as necessary.

> I cannot in this place silently pass over, without noticing the consequences of it—the violation of that principle which is the life of naval and military service—I mean that which enforces the observance of seniority in the advancement of officers of whatever grade. The infringement of this principle demands the united efforts of the officers of the Navy to discountenance and abolish it. It is not only unjust in itself, but destructive of the honourable pride and comfort of officers, and eminently subversive of that harmony, order, and subordination, which constitute the very existence of a well regulated navy. Merit and service should never be neglected or forgotten. When appointments are founded on injustice, or made under the influence of favour they must, in the nature of things, be no less destructive of the individual happiness of officers, than inimical to the contentment of the men.

On September 1, 1841, he submits certain suggestions for the good of the service in relation to assistant surgeons, and states that lasting good must come to the medical officers from their adoption. He also recommends that the Surgeon General of the Army make similar suggestions to the Secretary of War. "If an old medical officer of the Navy thinks, nay, is confident he can benefit the Service in this way, perhaps it will not be deemed intrusive that he does so. How is the department to get medical views?" These suggestions may be summarized as follows:

1. Recommends that three years' sea service be required as a probationary period preliminary to examination for promotion, instead of "at least two years," as at present in the regulations.

2. That assistant surgeons be required by circular from the department to perform all the minor operations directed by the surgeon, as bleeding, cupping, etc., and the dispensing and compounding prescriptions in their own person, not by delegating any of these to a "loblolly boy," hospital attendant, dispensary steward or a man nurse. In short, not to delegate these things to anyone. They constitute the business of an assistant surgeon, and unless he executes them he positively has no business to do, becoming the fifth wheel to the coach. These officers inspire confidence in the men and officers, and he adds, "What is physic without confidence—a loaded gun without the spark to ignite."

3. Assistants ought not to be allowed to alternate the duty of prescribing with the surgeon, and ought only to prescribe in his absence.

4. A medical and surgical journal ought to be kept by them to be presented to the board on their second examination. The department might furnish an outline of the kind of journal. It would discipline medical thought and induce reading.

5. When a medical officer acts as surgeon he should still not delegate his business to irresponsibles.

Thus we see how Barton paved the way to many reforms, adopted one by one in subsequent years, until now most of them have become part and parcel of naval practice.

On June 13, 1842, he writes and refers to his letter of the 19th of August, 1841, written in Washington, relative to epaulettes and uniform for medical officers, and directs the attention of the Secretary to this former letter, adding:

> The late Board, after their labors were over, feeling a deep interest in the consequence and respectability of the Medical Corps and under the full belief that you would willingly receive any suggestions they might make, calculated in their convictions to promote this consequence and respectability, have predicated on my proposition and suggestion in reference to the subject mentioned, and requested me to forward the document.
>
> This I now do with an earnest hope that you will acquiesce in the reasonable request made for the Corps. There is no doubt that Medical Officers, the oldest equally with the youngest surgeons, feel acutely, and especially in ships' service, their nonentity in the pageant part of discipline, and it would be affectation to gloss over the fact that Commanders and others representing them take no pains to prevent cause for feeling its nonentity. The epaulette and epaulettes will, if allowed, go far to abate this grievance, though nothing but a positive accredited rank will wholly reject it. I am sure of this, strange as it may seem in the abstract view. It is consistent with military show to be so. To conclude I must repeat with emphasis what I stated in my communication of the 19th of August, that what is asked for is usage in the English Navy and other foreign navies, and is usage in the United States Army.

Section IX of his book on Hospitals, 1814, dealt with the propriety of establishing the rank of navy surgeons. In this connection he states:

> It will be a matter of surprise to those who are ignorant of the fact, to learn: that at this late period of our naval establishment, the rank of a grade of officers confessedly among the most important of those who compose the Navy, is not yet determined.
>
> The inconveniences and disadvantages of this omission are well known to the medical and other officers of the service. I have sorely experienced them; and would venture to assert, that every surgeon in the navy has at some period or other of his service, also felt the effects of his indefinite standing as respects other officers of the Navy. . . .
>
> If it is ever expected that men of talents and education, who have spent much of their time in acquiring such knowledge of a difficult, a laborious, and, to most persons, a painful profession, as will enable them to serve their country with advantage, will enter and continue in the naval service: the rank of surgeons *must* be established. And this rank should be sufficiently respectable to give them a consequence among sea-officers that they have not.
>
> For my part, I cannot but believe it essentially necessary for the welfare of the navy, that this establishment of rank be immediately made. The error is old enough, and sufficiently productive of bad consequences, to demand a quick and efficient reform. When this is the case, we shall not have surgeons who have just continued

long enough in the service to be well acquainted with the nature of sea-duty, and to be of course the better prepared to benefit it by their experience, becoming disgusted with their unimportant situation, and leaving a service productive neither of emolument nor increasing respectability. I do hope therefore that this subject will claim the attention which it so eminently merits. Persuaded as I am that when naval surgeons are placed upon a more respectable footing than that they now hold, the expediency of the regulation will be manifest to all, I must strenuously urge the establishment of rank, as I have done the necessity for an augmentation of pay.

On September 2, 1842 Barton received the unsolicited honor of being selected as the Chief of the Bureau of Medicine and Surgery, a newly created office in the Navy Department. The selection was made from among the sixty surgeons then in the Navy. His position now furnished him the desired opportunity for inaugurating the many reforms he had long advocated as necessary to correct abuses and irregularities in the medical department of the Navy. As early as 1814 he had written: "The same independence which caused me to hold up my hands against the abuses of the medical department of the navy, emboldens me to expose them." He consistently followed this policy while Chief of Bureau, and as in earlier days his "independence in expressing his sentiments on points of duty, in the Navy," made not a few enemies for him, so in this position he found himself assailed "for correcting abuses of indubitable existence." Unfortunately, upon the assumption of this office, the letters which have formed such a satisfactory source of information cease almost entirely, and the only letters reflecting his work in the bureau relate to a period subsequent to the retirement of the Hon. A. P. Upshur, as Secretary of the Navy, with whom Barton was on most friendly terms. Not so, however, with his successor; and Barton's correspondence with the latter indicates strained relations and a lack of harmonious coöperation, which may have had much to do with his relinquishment of the office of Chief of Bureau in April, 1844. In his efforts to prevent undue waste and carelessness in the expenditure of medical supplies, particularly with respect to liquors in the medical department aboard ship, he was led to issue a "liquor circular" designed to be pasted on the inside of the lid of medical liquor cases. This circular established the contents of the case as medical supplies, and required them to be restricted to the use for which they were intended, namely, the sick. There was evidence that liquor was "borrowed" from medical supplies, and not always returned, and it was an abuse of this character which Barton aimed to correct. But the circular raised a storm from medical officers and others who considered their honesty impugned, and the whole subject had an airing in documents presented to Congress at the time the attempt was made to oust Barton from office. Barton's action, however, had the full support of the Secretary and of many officers in the service, who were aware of this

abuse of liquor. One of the most flagrant examples of this abuse was alleged to have taken place in the Florida squadron, and Barton's strictures on this particular expenditure brought down on his head the bitter enmity of the squadron commander, Lieutenant McLaughlin.

A single copy of Barton's first report as Chief of Bureau, dated December 1, 1842, was discovered in Washington, and it reveals his many difficulties, financial and others, in establishing the bureau and in effecting the reforms he looked upon as necessary and essential to efficiency. Some of the details of this report show a shocking state of public morals regarding medical expenditures, and to the correction of these Barton addressed himself unflinchingly. I will refer only to one item as illustrative of the conditions prevailing at this time. Barton found that out of the appropriation for "medicines, surgical instruments, etc.," there had been expended at one institution "for 31 blue coats, with navy buttons and a silver star ornament; 31 blue cassimere pantaloons, and 31 blue cassimere vests with navy buttons," the sum of six hundred and sixty-five dollars and fifty-seven cents!

In this first report of a Chief of Bureau there is a recommendation which touched the efficiency of every medical officer in the service. It is, "That a small compact medical and surgical library shall be authorized to be purchased for each vessel of war, in proportion to the size and capacity for the accommodation of books in the surgeon's department, and also for hospitals and sick quarters at navy yards. . . . Extensive and costly libraries are furnished by Government to the commanders of all ships in the Navy, often embracing a large proportion of mere general literature. Professional works, so important to medical officers, should not be denied."

Among the "Executives" letters filed in the Navy Department Library I discovered one from the Secretary of the Navy to the President, dated February 5, 1844, which refers to charges preferred against Dr. Barton by Lieut. John T. McLaughlin in the previous August. The exact nature of the charges does not appear, except to specify "gross official misconduct," but Barton apparently had made no reply to the department's request for explanation, and Lieutenant McLaughlin preferred another charge against him in October, 1843, which was also referred to Dr. Barton, but this remained unanswered like the former. I have searched in vain for some more precise information covering these incidents, but have found nothing. It will be recalled that McLaughlin was the officer in charge of the Florida squadron in which Barton had alleged there was an undue expenditure of liquor from medical department supplies, and the conditions in that squadron in this respect were brought forward by Barton in defense of

his celebrated "liquor circular." Two thousand and seventy-six dollars worth of liquor were procured for the sick in a period of about eight months, the number of persons in this command being in the neighborhood of six hundred. Barton had asked what had become of the liquor. Did the sick consume it all, and was it necessary? This had aroused Lieutenant McLaughlin's ire, and it is not improbable that these charges were inspired by Barton's comments. In the Judge Advocate General's Office there is evidence of a Court of Inquiry on Lieut. John T. McLaughlin dated September 24, 1845, and thinking that a study of this record might throw some light on the allegations made by McLaughlin against Barton, or be in some way connected with them, I sought out the record, only to find it missing, and so this matter remains a mystery which I have been unable to unravel.

Dr. Barton's letter of resignation, which I include here, closes the chapter on this period of his career. It is dated March 20, 1844, addressed to the President, and shows his state of mind regarding his labors in the office he is about to leave:

Without the slightest knowledge of the honor intended me by an appointment by you to this bureau, or indeed without knowing of the existence of such an office, I received, early in September, 1842, an official notification that the Senate had confirmed the nomination you had made of my name as its Chief. Doubting the popularity of the office, if strictly organized and executed throughout its parts, the appointment was not grateful to me, yet though the acceptance of it was a severe pecuniary sacrifice which I was unable to bear, as well as an interruption of the peaceful performance of my public serivce at my home, and with my family of females (whom I was obliged to leave unprotected), still the sense of duty overpowered these conditions. I therefore entered on the new duties assigned me with a determination expressed to the Secretary of the Navy at the time of doing so, of retiring within a year. After nearly twelve months' arduous labor devoted with conscience and zeal, duly appreciated by the lamented Mr. Upshur,[6] to devise and carry out a system of regulated requisitions and responsibilities in the Medical Department, I had determined, having become extremely ill, to send in my resignation last July. I was deterred from this act at that time, and subsequently by the urgent advice against the measure of the late Secretary of State, just named, and yielding to his wish and influence as to that of a valued and tried friend who knew my cause and views for public good in the Bureau, I continued reluctantly to exercise my efforts to realize the system of retrenchment, reform and responsibility I had adopted and put in force, and he had approved, and which however consciously I believe they know to be necessary, seems to have met with difficulty, opposition and unpopularity. My earnest wish therefore has long been, and now is, to retire from the scene of unavailing efforts. This I requested to be conveyed to you by a third person in your confidence, some weeks ago. I have done my duty to you and my best for the good of the country. No man can do more. I beg therefore now to tender and I do hereby tender my resignation as Chief of the

[6] On the resignation of Daniel Webster in 1843, Mr. Upshur became Secretary of State. On February 28, 1844, in company with the President and his party he visited the U. S. S. *Princeton* on the Potomac to witness the testing of a big gun. It exploded in the experiments and Secretary Upshur, together with several others of the party, was killed.

Bureau of Medicine and Surgery of the Navy Department to take effect on the first of April next, and hope while so doing you will not consider it improper but only just to myself to request that you will do me the favor by that date to have me returned on duty as a surgeon of the Navy Department of the Philadelphia station.

Barton was succeeded as Chief of Bureau by his former prosecutor before the court-martial in 1818, Surgeon Thomas Harris.

After this we have little information regarding his activities, but it is not unlikely that the wish expressed in the final paragraph of his letter of resignation was gratified and that he went to Philadelphia. In February, 1848, he is ordered to hold himself in readiness for duty at the Naval Hospital at Pensacola, Florida. He remained here only a few months, being relieved by Dr. Hulse on September 1, 1848. Two letters from this hospital were discovered, in handwriting, alas, which is no longer as legible as it was in the earlier years of his life. One bears date of July 18, 1848, and the other September 1, 1848, the former addressed to a Mr. Innerrarity of Pensacola and the latter to the Hon. J. Y. Mason, Secretary of the Navy. Both these letters discuss the question of clothing for the slaves employed in the hospital as attendants. Some of the owners of these slaves had neglected to furnish what Barton considered necessary either in clothing or in a money equivalent with which the slaves might purchase clothing.

In 1852 he is again president of the Board of Examiners at Philadelphia, and apparently remained here until his death on February 29, 1856.

The North American and United States Gazette, Philadelphia, for March 1, 1856, contains his obituary notice, as having died on the morning of the 29th ultimo, and inviting relatives, friends and officers of the Navy, Army, and Marine Corps to attend his funeral at his late residence on Chestnut Street at 2 o'clock on the 2d instant. Under date of March 3, the same paper prints an account of the funeral and the interment of the remains at Laurel Hill. A detachment of marines was detailed from the Navy Yard to fire over his grave. The cortège included representatives from the local military bodies, Army, Navy and Marine officers, and the Pennsylvania Cornet Band preceded the procession, performing music appropriate to the occasion. Dr. Barton's grave is on the hillside overlooking the Schuylkill and is marked by a simple headstone, inscribed with his name, the date of his birth and the date of his death.

APPENDIX

The appearance of Dr. Barton's work on "Marine Hospitals," in 1814, marked an epoch in the history of medicine in our service. This book disclosed a mind capable of appreciating the vital problems of

naval hygiene, their significance in relation to the health and comfort of seamen, and an ability to apply constructive improvement in sanitary conditions, which few, if any, of his contemporaries possessed. His writings give evidence of extensive study of the literature of naval and military medicine. He makes specific references to the works of Blane, Lind, Clarke, Trotter, Turnbull and Larrey. Many of his suggestions for reform or improvement were looked upon as revolutionary, and as unnecessary innovations. It is only by perusing his two books on naval medicine that we can form an adequate idea of the extent of his activities in this field.

It was in February, 1814, that Dr. Barton's "Treatise on Marine Hospitals and the Medical Department of the Navy" appeared. The full title of the second edition of this book I have given earlier. The first edition did not contain the "Observations on Military and Flying Hospitals" which appears in the second edition. The first edition was dedicated:

To the
Flag-Officers, Captains and Surgeons
in the
Navy of the *United States:*

A Navy, rendered glorious by the brilliancy of its achievements and which has added lustre to the nation—giving dignity and importance to its character abroad:
A Navy, to the seamen of which, by their prowess and their victories—the skilful, the valorous and the hitherto unconquered naval sons of Great Britain, are forced to yield the palm of superiority:
A Navy, thus eminently distinguished even in infancy—and which has conquered its way to publick favour and estimation:
This attempt, to promote its interests is most respectfully dedicated by the Author.

Then follow a number of recommendatory letters from prominent medical men in Philadelphia, including Dorsey, Coxe, Chapman, James, Hartshorne, Hewson and Barton. The book is divided into two parts, one dealing with "A Plan for the Internal Organization and Government of Marine Hospitals in the United States" and the other with "A Scheme for Amending and Systematizing the Medical Department of the Navy of the United States, with a few Observations on the Expediency of Altering the present Ration; and Promoting the Better Ventilation and Warming of Ships, also some Strictures on the Practice of Frequently Wet Scrubbing the Decks in the Winter Season and the impropriety of Shipping men of the United States Vessels without a Strict and Conscientious Examination by a Surgeon or Surgeon's Mate, of their Efficiency as Able-bodied Men."

Barton explains in the preface of the first edition that the idea of the book originated in a request made to him by the Secretary of the Navy

in November, 1811, to submit his ideas "respecting the proper and systematick mode of conducting institutions of this nature (*i. e.*, Marine Hospitals), as well as any suggestions for the internal organization of the household as might seem to me consistent with economy and truth." The finished book contained considerable additions and emendations. He speaks of the many opportunities he has had during his sea duty of observing irregularities in the medical department and the disastrous consequences attending them, and in his book he endeavors to point out the means of correction. He states that if the propositions and suggestions exhibited in the book be thought worthy of adoption and if they shall be found calculated to achieve the object they have in view, "I shall deem the five years I have devoted to the naval service, not passed in vain. . . . I have been long enough in the Navy to have its interests much at heart, even if I did not believe (which I certainly do) that its existence is vitally important to our national prosperty and honour."

In the preface to the second edition he speaks of the fate of the book as somewhat remarkable:

> It was written by the request of a late Secretary of the Navy at a period when the youth of the Author (then but four and twenty) caused him to think of executing the task with diffidence. . . . The work, however, was flatteringly recommended. . . . Notwithstanding these unqualified testimonials in its favour . . . the work lingered for a short time on public view, and was then forgotten. An ineffectual attempt was made in March, 1814, to bring it to the notice of the naval committee of Congress . . . to lay before its members a knowledge of the irregularities and abuses of the medical department, for the reform and correction of which the author had proposed what he believed a feasible scheme. It resulted however in an indirect reference . . . to the Secretary of the Navy. . . . It is plain from this exposition, that the author had but little reason to be satisfied with the present, or sanguine respecting the future reception of his work. Yet, though not insensible to the palsied touch which seemed to have reached it, candour compels him to acknowledge that he never despaired of its ultimate success. . . . The work has finally worked its way into notice and favour. It has been patronized both by the navy and war departments . . . and although but three years have elapsed . . . a new edition is called for. . . . For this estimation of its merit, the author takes this opportunity of rendering his thanks to those medical gentlemen, by whose passport it has at length gained admittance to the chamber of the great, after a chilling and tedious tarry at the portal, and many frowns from one of the servants in waiting.

An idea of the scope of this work may be gathered from a mention of the subjects treated in it. The opening section contains observations on the necessity of establishing marine (naval) hospitals in the United States. Barton refers to the law which authorized the establishment of these institutions and to plans submitted to the Secretary of the Navy by the engineer, Mr. Latrobe. In adducing reasons why hospitals should be provided he remarks:

Nothing causes seamen to discern alacrity, promptitude and faithfulness, in the performance of their severe and arduous duties . . . than a certainty of being attended humanely and ably by the superintendents of a medical department replete with every comfort and convenience for the sick and afflicted. . . . While on the other hand the neglects, irregularities or inability, of the medical officers, never fail to create discontentment and disgust. In the petition . . . made by the delegates of the English fleet at Spithead, in the ever memorable mutiny . . . in the year 1797 . . . one of the principal articles referred to the neglect of the sick on board the ships . . . it was deemed prudent and expedient to issue new orders from the office of sick and wounded seamen, respecting the medical department, the strict observance of which was required of the surgeons.

The second section presents a sketch of the marine hospitals of Europe, including the Royal Hospital for Seamen at Greenwich, the Chest at Chatham, the Royal Hospitals at Haslar, Plymouth, Deal, Yarmouth and Paignton and the Chelsea Hospital; the Forton Prison Hospital for French prisoners near Portsmouth and the medical departments at the Royal Navy Yards. He also describes the French naval hospitals at L'Orient and Cherbourg.

It will be recalled that Barton had just come from abroad in the *Essex* and the data for this section had been obtained on this cruise. He refers to having been at Cowes, Isle of Wight and at Barnpool (near Plymouth) during the time abroad, and seems to have visited St. Thomas', St. Bartholomew's, Guy's and St. George's Hospitals in London. His descriptions are full and painstaking, and it is not unlikely that they were based on personal observations, although he does not state how he obtained the information regarding these institutions. In Section III he deals with the principles which he considers should govern the administration of naval hospitals and it is here that he quotes Turnbull, an English naval surgeon, in support of the proposition that naval medical students should be instructed in anatomy, surgery, and clinical practice at the principal naval hospitals, thus constituting them "schools of naval surgery," with the object "that young men should enter the medical sea service . . . not mere tyros in their business but . . . well versed . . . in naval medicine and sea surgery; but intimately acquainted with the nature and treatment of those diseases which are incidental to a sea-faring life." He asserts that "the general administration of marine hospitals should be of a military nature" and that "the salaries of the different officers should be as liberal as is consistent with a due regard to economy. . . . Medical officers particularly should be allowed such ample compensation, that they would have no inducement, nor be subjected to the necessity of resorting to private practice, in order to support themselves or their families. . . . All the officers of the institution should be furnished with houses or

apartments within the limits of the hospitals." The succeeding sections of Part I of the book continue with questions concerning sites for hospitals, internal arrangements of hospitals, construction of bedsteads, dress, bedding, ventilation, warming, diet, reception of patients, duties of officers, nurses, orderlies, rules for patients, and an account of the Pennsylvania Hospital. The second edition contains the "Observations on Military and Flying Hospitals."

Part II presents his scheme for improving the medical department of the Navy. He remarks that "Schemes proposed by an individual to the Secretary of the Navy, are not likely to be well received, unless they be seconded by officers high in rank and reputation. . . . With some of these . . . I have frequently conversed respecting the deplorable want of system that marks the medical department of the navy. It affords me the greatest satisfaction to say: that I ever found them willing to give all assistance in their power."

Commodores Decatur and Rodgers and Captain Porter are mentioned as affording him support in the past.

Barton then takes up in detail his ideas for reforming medical administration in the navy. In the light of his experience on the *United States* and *Essex* he recommends the introduction of a systematic plan for furnishing ships with medical stores, and the establishment of regulations which will make the surgeons responsible for the just expenditure of articles. He mentions the chief points that require correction or reform as being: the introduction of the lemon acid, in abundant quantities, with free and liberal use in our ships; the present irregular mode of supplying ships and vessels of war with medicine and hospital stores; the laxity in the necessary checks to abuses that grow out of it; the faultiness of the regulations respecting the responsibility of the surgeon for the safe-keeping and proper appropriation of the articles entrusted to his charge, exclusively for the benefit of the sick; the alteration of the present ration, or at least the liquid part of it; the better ventilation and warming of our ships in the winter season; the practice of slushing down decks in winter; and lastly the impropriety, and pernicious consequences, to the service, of the present plan of recruiting, in which men are shipped without a strict examination by a professional man. He summarizes his ideas of naval hygiene as follows:

> With respect to the navy, which is my object at present, the regulations that are most to be depended on, for preserving and promoting the health of seamen, are such as have in view a diet of healthful quality, the personal cleanliness of the crews and the purity and free ventilation of the ships they inhabit.

In the section dealing with "the mode of furnishing the medicine

and store chests" he recommends the adoption of a supply table, a model for which he exhibits in the text, with all the items specified, and suggests regulations for governing the storage and issue of medical supplies. The necessary blank forms for recording an account of the receipt and expenditure of medicine, etc., are described in full.

Section VI refers to a singular practice then existing in the Navy, namely, the payment to the surgeon of a fee, usually five dollars, for every patient cured of venereal disease, this amount being charged against the accounts of the sufferer, by the purser. Barton states with reference to this plan.

> It is true there is no established article of the navy laws to authorize the payment of such sums. But immemorial custom has given this regulation the importance and effect of a law.

He looks upon this practice as reprehensible and wishes it expunged from the navy altogether. He alleges that

> Seamen sometimes, but more frequently landsmen and marines, do frequently conceal their complaints for fear of being obliged to pay the doctor for their cure. This happens till the disease assumes a serious and not infrequently a dangerous aspect. They will purchase for a trifle, on shore, drugs enough to ruin them . . . or apply to the loblolly-boy . . . rather than make their complaint known to the surgeon. Can anything be more destructive to the health of the men, and of course to the good of the service, than a regulation that induces such conduct and such consequences?

Barton lays down in succeeding sections exact rules governing the duties of surgeons' mates, and devotes a section to a discussion of the expediency of giving surgeons proper military rank. Rationing and diet for seamen is reviewed at length and Barton presents a revised ration "for promoting and preserving health and morals of the seamen in the U. S. naval service." The section devoted to the ventilation and warming of ships emphasizes well-known principles of hygiene governing these subjects and recommends the more extensive use of windsails. He insists upon dryness of lower decks and inveighs against wet scrubbing of them in winter weather, quoting Trotter in support of his contention. The two final sections of the book deal with Barton's ideas regarding the examination of recruits, a matter in which he seems to have been a pioneer in our service, and with plans for improving the health of the men and the comfort of the sick by locating the sick bay further aft, isolating it by partitions, ventilating it "by tubes from the gun or main deck," and furnishing well-slung cots, etc. Other points covered are the proper location of the paint room, to avoid lead poisoning; the selection of a place for laying ships up in ordinary, free from damp and marshy exhalations; the provision of bunting sashes for lower deck ports; providing boats' crews with breakfast before they

are sent on shore for wood or water; exercising supervision over "bumboats" to exclude spirituous liquors; preventing men from drinking river water, when ships are anchored in rivers; that "dancing and musick" be promoted and encouraged among the men; and finally, he closes with the statement: "The most willing coöperation of the commanders and other officers of ships, should always be afforded the surgeons, in any of his plans for meliorating the condition of the men and promoting the convalescence and cure of the sick." In the "Conclusion" he closes as follows: "I conceive that the country has a right to expect from every officer in the service, the result of his experience, if that can in any way lead to the interests of the nation. I therefore tender with unaffected diffidence, my mite towards the general weal." An "Appendix" contains a list of surgeons in the Navy in the year 1814. The second edition of this book was dedicated to Daniel Parker, Esq., Adjutant and Inspector-General of the Army of the United States, which apparently was meant to be a public acknowledgement of the patronage accorded the first edition of the book by the army authorities, who purchased it in quantity. In fact, the Army appears to have purchased more copies than the Navy, if one can judge from the letters printed on the page succeeding the dedication in this edition.

The "Hints for Naval Officers Cruising in the West Indies" was written and published in 1830, immediately following Barton's duty in the *Brandywine*. This small volume incorporates in book form two reports made to the Navy Department on "Ardent Spirits in the Ration of Midshipmen," which has been referred to previously, and a "Report on the Means of Preserving the Health of Seamen Previous to a Cruise." To these are added sections dealing with Use of Tobacco; Clothing; Sleeping; Restriction in Water; Temperance in Drinking and Eating; Miscellaneous Observations; Immunity, and a section dealing with the natural advantages of Pensacola as a site for a permanent naval depot. An appendix contains several letters written while on the *Brandywine*, touching mainly questions of hygiene. This work, while presenting valuable and interesting material, and necessarily reflecting a more mature experience in the service, does not possess as great a claim to commendatory notice as the preceding, and, moreover, it is written in a somewhat labored literary style.

In the *National Gazette*, Philadelphia, April 15, 1829, there appeared a notice of a treatise which was stated to be in course of preparation by the author of the "Hints," entitled "A History of the Navy of the United States." There is no evidence that this work ever reached the stage of completion.

THE AMERICAN PHYSICIAN IN THE DRAFT AND IN THE SERVICE OF THE WORLD WAR [1]

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THE broad subject has been covered by many previous authors—medical and lay, official and unofficial, ranking and subordinate—so that little really new is possible, but the experience of the author in the draft may offer different viewpoints on several topics through work in committee before the draft, through work in earlier days of the draft in the old arsenal of New York city under Roscoe S. Conkling, later lieutenant colonel, U. S. A., when all questions were being thrashed and when chaff and stubble were about as abundant as wheat; and through later work in the Selective Service Headquarters under such leaders as Roger B. Wood, Phillip J. McCook and Martin Conboy.

The work in committee before the draft is exemplified by the orders extended by the Surgeons General relative to venereal disease prevention and control among the camps and their environs in this country, and later in Europe at ports of debarkation, training stations and fighting fronts. In this city the work was begun at a committee meeting held at the City Club, attended by the Commissioner of Health of this city, the Commissioner of Health of the State or his representative, the chairman of the Genito-urinary Section of the New York Academy of Medicine, myself as president of the New York Society of the American Urological Association, and nine others interested in venereal and sociologic problems.

Later, in Washington, another committee meeting of upwards of sixty was called, comprising men of national reputation in this same and other fields of medicine and sociology, notably the Surgeons General of the United States Public Health Service, Army and Navy, the previously stated four physicians and many others, chiefly professors from medical schools and officers of charitable and sociologic societies. The deliberations presented to the Government are summed up in the interdiction of alcoholic drinking among the troops and venereal disease control under four headings as crystallized later by a Special Venereal Disease Advisory Committee in the office of the Surgeon General of the Army: measures to diminish sexual temptation, education concerning the venereal disease perils; prophylactic measures and curative treatment.

The outcome of these plans are epitomized by the Secretary of War in remarks quoted later in this paper as his estimate of the American

[1] Read in part before the Society of Medical Jurisprudence at the stated meeting, October 13, 1919.

Expeditionary Force. Hence it follows that early wisdom in a very grave medical question pronounced with authority to the Government was heeded and gave a rich and rare harvest of efficiency and health never before equalled in any other army or navy in this or any other war. This outcome goes far to show that the united opinion of the medical profession concerning questions of public interest is marked by foresight, judgment and wisdom.

Perhaps the best outline for this paper will be a discussion of army and navy medical organization before the war, a presentation of its development during the war in the united services with its accomplishments and last deductions or suggestions for the medical share in universal military training. The writer is among those who believe that such a form of universal military training should be adopted as will forever discourage any and all future attempts at world conquest.

Of the three broad subjects the first is the antebellum army and navy medical organization. One is amazed at the meager personnel efficient in former peace times, exemplified by the following records. Commissions were held by only 447 in the Regular Army with nearly 1,600 in the Medical Officers' Reserve Corps, and by 329 in the Navy, with 25 contract surgeons and with 161 in the Medical Officers' Reserve Corps. The totals of 2,047 for the Army and 551 for the Navy give a United Service total of only 2,562, more or less. These figures approximate 2 per cent of the entire profession in the United States, or even less. Independently of the draft, about 20,000 volunteered very early in the war, manifolding this percentage by 8 and making 16 per cent or more early in the United Service Further augmentation followed, so that when the armistice was declared there were about 35,000 physicians in the Army and 3,000 in the Navy, multiplying the original 2 per cent by 13 and reaching 26 per cent of the American medical profession.

These large figures involve only the uniformed medical officers and carry no recognition of the many thousands of physicians who, as legal and volunteer members of local boards, district boards, medical advisory boards and perhaps the United States Public Health Service, did remarkably valuable service.

The factors in this wonderful patriotism were the authority in the Surgeons General of the Army, Navy and United States Public Health Service; the executive qualities of the Council of National Defense, Medical Section, with its state branches; and finally the close correlation of the County and State Societies of the American Medical Association with its great organ of notice information and instruction, *The Journal*. These societies have for years shown their cohesion in matters scientific, sociologic, economic and, in restricted sense, public. Hence the expected

thing occurred: consistent response to the nation's call for personal, professional, communal and national service and sacrifice. No one may or will or does question the losses sustained by individuals in absence from home and practice. The devastations of the influenza epidemic were accentuated by decreased medical service in all communities. The whole balance of the draft was to leave the needs of the country in all vocations protected as far as possible. If a draft of the physicians as such had also occurred, the same wisdom would have been exercised. In fact, as later outlined in this paper, it was exercised, especially with regard to medical students and young physicians of draft age.

It is said that a very voluminous card index was prepared for the Surgeon General of the Army by skilled statisticians of life insurance, comprising upwards of 30,000 physicians, and detailing even their knowledge of foreign languages. Such an index should be kept alive and up to date even in time of peace and should contain all members of the American Medical Association. It would be possible to subdivide this roster into three groups: those qualified best for full military duty, those qualified for special or limited military service, and those required by family ties, age and any other limitations for home service. The duties especially adapted for the special and limited military group are outlined later and are of very great importance, judging from experiences in the selective service. By a system of reports to the Government by medical schools on the physical qualifications of each man as he receives his degree, the classification would be easy. In fact the form of report could be on the index card itself and sent at once to the proper bureau of the Surgeon General's office, and a duplicate kept at the schools.

The most pithy summary of the results of medical effort in the World War was given by the Secretary of War on September 3, 1919, in Philadelphia before the Fifty-eighth Annual Convention of the American Chemical Society, in these words: "The soberest, sanest, least criminal aggregation of its size that ever stood together on this planet." This was his tribute to the American Expeditionary Force. He added:

> The doctors, as a class, made a great contribution to the success of the war This is the first war in history in which deaths from disease were less than deaths from battle wounds.
>
> In the Spanish and Russo-Japanese War the disease and death rates were made equal. In this war we have changed that. This was due to the fact that in the medical profession, as in the chemical profession, the leaders of their professions forgot their former activities to put on the uniform and serve the nation.

The second general topic is the development of medical organization and service during the war. There are two phases of this development: the medicolegal in the draft boards and the professional in the training

and fighting forces for prevention, alleviation and treatment of diseases and wounds.

It should be remembered that as the commonwealth of our country regards the Selective Service Law and its enforcement as a distinctly civilian rather than a military proceeding, so should our profession regard the work of its members on draft boards as civilian rather than military. For this reason, however, no distinction should be made at the cost of those physicians who held no commissions but yet contributed definitely and potently to the creation of the Army and the Navy and the success of the war.

In a brief review of the medical work on local boards by the physicians at home, note must be kept that the doctors held no commissions but only appointments by the President. It will be remembered that nearly every local board had at least one doctor so officially appointed on its personnel, and that he later surrounded himself with several or many volunteers. In some boards of this city these volunteer helpers numbered a dozen or more, subdivided themselves into committees for alternation and reciprocation of service and did work astonishing in amount, detail, efficiency, value and results.

All district boards had a quota of physicians and were by the law required to have at least one. As discussed later in this paper, under the heading of medical appeals, it would have been a direct and expeditious method of deciding questions of physical classifications if the district boards had been by law sufficiently enlarged and composed of an equal number of laymen and medical men. The latter should have been consolidated into a kind of Medical Supreme Court and have finally disposed of appeals on physical grounds. The plan in the selective service by which district boards gave merely a formal hearing and advisory recommendation in physical questions proved to be a futile and fruitless loss of time in most cases.

Later came the medical advisory boards, in large measure founded on the original Advisory Board for Venereal Diseases at St. Mark's Hospital organized by the writer during the first draft from July to December, 1917.

Here again the functions of the Medical Advisory Board should have been those of a Medical Court of Appeal, and the decisions should have been finalities and not *pro forma* recommendations only, as later discussed. If this arrangement were followed, then only in exceptional cases could the Medical Division of the District Board have decisions before it. These relatively few cases would not have overburdened it, and each would have received a new examination or presented new evidence. Both these plans would save almost needless discussions and

votings in the local boards. This relief of the local boards from difficult cases was very important because many of them were by-words in their neighborhoods, and the finality of independent and disinterested consideration and decision would have avoided disquieting and mean criticism and question, as to favoritism or incompetence. Of very many cases of anonymous and public information against local board medical decisions investigated by me through the draft, very few indeed were proved to be founded on fact. It therefore eventuated that in most instances the local boards were correct in their findings.

When the large number of all these medical members is contemplated, it is realized that practically all the leaders of the profession not under commissions were in the selective service. Conservatively speaking, this is a remarkable record.

Statement of difficulties in the work, if not adverse criticisms, is in order, and it is hoped that in the later discussion of this paper the former members of the Selective Service Headquarters Staff will be heard in agreement or disagreement with what is said.

The spirit of the original local boards was to have one medical, one labor and one legal member. A few boards had all physicians and a few all civilians or lawyers who under the law engaged physicians in an advisory capacity as provided in Sections 38, 42 and 96. The author's opinion is that it was a mistake to permit any board to operate without one medical vote, and doubtless some of the poor work encountered in boards otherwise organized arose from the absence of that vote. Medical men are today as never before, entitled to their full standing and authority in such matters.

Many public-spirited persons hope to see the day when medical questions of importance in our courts of law cannot be decided by votes of lay juries. This is an illustration in common life of exactly the point aimed at in these words.

In New York City the objective was reached of causing volunteer physicians, whether nominated or even appointed by local boards themselves, to be recorded and approved by the Selective Service Headquarters of the state in Albany. The writer was one of the instruments in bringing about this objective. By examination of the medical society and medical institutional affiliations of the nominees the highest possible grade of ethics in the personnel and of efficiency in the work were maintained. It is believed that the results fully rewarded the detail and the labor.

Physicians of draft age almost universally sought and received commissions, before being drafted, acting as volunteers or prior to summons before the Local Board. The strength of the profession of the

future was protected under the original law and regulations by permitting the enlistment of medical students in the Medical Reserve Corps in accordance with Section 151*b*, Selective Service Regulations. Under the act of May 20, 1918, students who were at that time preparing for the practice of medicine and surgery in recognized medical schools were granted exemption.

These steps were all wise and successful, yet now come three which were otherwise, namely, the Group C or Limited and Special Military Service physicans, the original organization of the medical advisory boards and the variations among standards of medical examination, resident and too long persistent in the orders themselves and in the great differences between board and camp examinations.

Taking each of these three matters in turn, the facts are as follows:

The physicians drafted for limited or special military duty really pestered the Selective Service Headquarters with inquiries about their status as to readiness to enter service in terms of closing offices and homes and severing relations with institutions. They considered themselves in a serious chance predicament, yet could learn or do nothing.

So much difficulty had existed between the headquarters and the boards on one side and the camp surgeons on the other side as to the results of examinations that the thought occurred to me for their induction on the following plan. If these Group C physicians could be inducted into service, given commissions and trained to become permanent examining bodies in the camps under guidance and control of superior officers, then the local and district boards and the Selective Service Headquarters of all states would no longer be dealing with a fluctuating personnel in camps which totally changed as fast as units left for Europe. With approval by the chief of the New York office, the Honorable Martin Conboy, the plan was presented and approved in the Selective Service Headquarters in Albany and then transferred to Washington. Orders of induction followed. The result was unique. They were not given commissions at all until long after induction. The men at least in many camps seem to have been regarded as professional defectives rather than as physical defectives, among licensed and skillful physicians. They were drilled by subaltern lay officers and then given nonmedical duties. One in my knowledge cooked for 200 men for several months, and another carried urinals as a hospital orderly. Yet both these men were successful in private practice in New York City. The point is that few, if any, ever reached the base hospital staff of any camp or the examining staff of any camp according to the plan stated, and commissions were delayed for a very long period. Someone blundered in the interpretation of the plan and in the order for it. Instead of a gain in professional efficiency

it was a needless and pathetic loss of medical time and skill to the Government. Discontent and resentment ruled among these men almost universally. What is equally important is that all the old difficulty continued as to coördinating examination standards between the boards and the camps.

In a future draft (should war ever again curse this liberty-loving and peace-living nation), a wise provision will place the physicians of draft age disqualified by physical defect from full military service quickly under commission and on duty as permanent parts of base hospital staffs and camp examination boards at home as distinguished from similar bodies at the front.

The second adverse circumstance for our notice was the original organization of the medical advisory boards. The writer recalls an interview with the Provost Marshal General of the Army with which he was honored in Washington in December, 1917. Among other matters casually discussed was that of the forthcoming medical advisory board as it was then planned. The writer mentioned that, according to his experience at his original advisory board at St. Mark's Hospital, only cases of great difficulty should be referred, otherwise the local boards would overwhelm the advisory boards with needless, mere detail work. The restrictions suggested were not accepted for the stated reason that the plan was being developed by a committee of prominent physicians (who certainly had more professional distinction than the writer, but had not had his experience at the hands of the New York local boards). The outcome needs no description. The medical advisory boards did not do the work because they could not. In a certain sense the brief period of this wideopen mistake was the dark period of the draft, in many ways darker than the days of July and August, 1917, when no one really knew his duty or how to perform it. This is true because the local boards felt themselves reflected on and the advisory boards imposed on by the new order. A quasi-deadlock seemed imminent between over-sensitive local boards who would not and advisory boards who could not do the work. The error was, however, very quickly corrected and the restrictions, as described, were placed on local boards so that only true consultation work was referred. Again someone had blundered. A future draft should absolutely guard the judicial, consultant duty of this advisory work. While the class of duty was in this way finally correctly settled, the authority of the medical advisory boards was too little. Much discussion and doubt and fruitless queries of the Headquarters Staff would have been avoided, if, as already stated in this contribution, the decision of the medical advisory boards had been practically final somewhat as, in our courts, the Courts of Appeal overrule the Lower Courts. Cases of

still greater difficulty could be decided by the district board through its medical staff. Bearing on the medical advisory board development are these peculiar situations. The failure of true recognition of the importance of medical examination and judgment in the classification of the registrants is exemplified by the following facts or fundamental errors in the regulations. They affected the local boards, medical advisory boards, and district boards, and doubtless led to much of the trouble developed through rejections in camps. These three details stand in bold relief against a back-ground of common-sense which should have taught more wisely.

The finding of the local board physician was a recommendation *only*. In the classification on physical grounds his vote had equal weight only with the vote of other members of the board. If he were not a member of the board, he had no vote at all. More peculiar still is this other fact just described. Under Section 123 a registrant could be referred to the medical advisory board, but its findings were advisory only and not determinative, according to Section 122, Note 1, Second Edition. If a registrant, in the third instance, came before the district board on physical grounds, no new examination could be held and no new evidence considered, according to Section 126. It therefore followed that the district board was required to submit and waste its time with a matter of useless form in these cases. At least in this city, the district board usually concurred in the findings of the medical advisory board. Laymen decided medical questions and gave classifications on physical grounds in a measure entirely unreasonable and improper. Doubtless better results would have followed better recognition of physicians' judgment, standing and authority.

The third element of real loss was the changes in regulations and standards of medical examinations. It seems well to note these standards briefly in the order of their appearance. Among the physical examination standards the first to reach the local boards early in the draft of 1917 was Form 11, July 2, 1917, "Regulations Governing Physical Examinations" issued under the authority of the Provost Marshal General of the Army. It contained only four pages of instructions. These first orders seem to have been a hasty abstract of a longer volume on medical recruiting standards in peace. The very abbreviations lead to confusion well exemplified by the author's own experience as to venereal diseases mentioned in a recent paper.[2] Acting on the practice of the Army up to 1916, it was determined to reject all active venereals. This was consistently done until late in December, 1917, when it was learned during a visit to the office of the Surgeon General of the Army, that they were to

[2] "The Venereal Problems of the War," *Med. Rec.*, July 12 and 19, 1919.

be accepted unless incapacitated or actively infectious. In matters so important there should have been an early and fixed ruling, promulgated at once to all selective service boards. One may say that Form 11 was so condensed as to be conspicuous for what it omitted to make clear. This criticism is borne out by the fact that later more explicit instructions were demanded and published. A booklet was published by the War Department, August 22. It consisted of Memoranda Nos. 3–8, both inclusive, and Circulars 20–23, both inclusive, from the office of the Surgeon General of the Army. It was entitled "Instructions for the Physical Examination of Drafted Men at National Army Cantonments." It is a closely printed pamphlet of thirty-two pages and is clear and definite in its provisions. The need thereof in medical advisory boards was shown by the call for fuller data on physical requirements. The first copy I saw was in Camp Upton. Application was at once made for a supply of them. These were distributed to, used, and appreciated by the medical advisory boards. They fulfilled a long-felt want. In any future draft fuller instructions should be issued at once to all civilian physicians responsible for recruiting. On February 14, 1918, the Secretary of War promulgated Form 64, "Manual of Instructions for Medical Advisory Boards." It was a booklet of 112 pages and went a long way on the road to more stable medical policy in dealing with the registrants. Its defects led to the use by the medical advisory boards of New York City of the said Memoranda and Circulars of the Surgeon General's office at the writer's request. Later, on June 5, 1919, the Secretary of War issued Form 75, "Standards of Physical Examination Governing the Entrance to all Branches of the Armies of the United States for the use of Medical Officers of the Regular Army, National Army, National Guard, Medical Reserve Corp, Recruiting Officers of the United States Army, and of Local Boards and Medical Advisory Boards under the Selective Service." It was a pamphlet of seventy-six pages, and abbreviated and clarified Forms 11 and 64 by bringing all the medical men under one policy and plan. Its errors were very few and its directions were clear. The second edition came out September 27, 1918, about a month and a half before the armistice was signed. It proved its value, however, in the brief period of its application and will doubtless be the groundwork of recruiting in the Army and Navy and the basis of future draft board work. Considered from the standpoint of rapidity of development, all these Medical Selective Service Regulations may be regarded as very creditable and efficient, although critical description of the forms is proper. A peculiar difficulty always enforced itself upon the Headquarters Staff. There always arose divergence between the physicians of local boards with long experience with the regulations, the medical advisory board physicians

(often with greater professional standing but with little or no knowledge or respect concerning regulations), and the camp surgeons (with almost disregard of the regulations). Special orders of the Surgeon General of the Army, which never or very tardily, if ever, reached the local boards, were often responsible for the last factor named. It is interesting to say that the greater the prominence of a medical advisory board member, the more he disregarded the regulations in many instances, and that the higher the rank of a camp surgeon, the more independent was he of the regulations as given to the boards. Hence a vicious circle existed, very troublesome, indeed, to the local boards, district boards and Selective Service Headquarters Staff. There is no legitimate excuse for this unworkable and obstructive circumstance.

Some method should have been adopted by which any order from the Surgeon General of the Army affecting the examination of registrants in camps should have been transmitted to the Provost Marshal General of the Army for his information and for publication as regulations for the local boards. If this had been consistently done, a vast amount of confusion would have been avoided and at least conformity of method established and needless expense saved to the Government and the registrants through inductions wrongly determined on physical grounds. It must never be forgotten that the Government is little affected by the cost of mistakes on account of its vast resources. The registrants, however, suffered acutely in terms of positions lost, business sacrificed, home relations altered, social ties severed and families scattered. It is all very well to say that, in war, relations of the Government with its citizens are impersonal. The results of the draft are very personal to the registrants, and personal in the highest degree while they are still civilians and not soldiers. Hence twists and folds and irregularities in regulations should be ironed out as much as possible, so as to relieve sacrifice wherever practicable.

If my observation led to one conclusion more than to another it was that the physical examinations and determinations should have been held first. After physical acceptance then the legal status for induction or exemption should have been determined.

A celebrated example of what is meant, concerning confusion of regulations and orders, were the radical changes in regulations concerning heart conditions, proceeding from the office of the Surgeon General of the Army to camp surgeons in May or June, 1918. Up to this time local boards and camp surgeons had been accepting for observation various minor organic and functional cardiac defects in conformity with the experience of the British Army. This experience was to the effect that many of these cases, through training, were reclaimed for first or second

line duty or valued services at home (each of these three to the extent of about 20 per cent, leaving 40 per cent as final rejections). At this time orders from the Provost Marshal General of the Army were issued to expedite all work so that the largest possible number of men would be trained ready for European duty, but nothing was said in these orders concerning the order from the Surgeon General of the Army to the effect that all such heart cases were to be rejected. The outcome of wholesale rejections in camps of these forms of cardiac disease accepted in good faith by local boards may be imagined.

Regulations concerning the teeth were also most confusing and inaccurate at first. They were changed several times before the fixed standard was published in Form 75.

Variations in rulings as to height for acceptance and rejection threatened at one time to deprive New York City of its full quota, because so many of our foreign-parentage citizens are of low stature. Form 64, Manual of Instructions for Medical Advisory Boards, gave the minimum height as 60 inches. Selective Service Regulations, First Edition, and Form 11, Regulations Governing Physical Examinations, gave 61 inches as the least for acceptance. Selective Service Regulations, Second Edition, referred to Form 75, which published 63 inches as the lowest standard.

When it was pointed out by the Selective Service Headquarters of New York City to the authorities in Washington that several foreign armies contained large numbers of men about 60 inches high the standard was again lowered, and it then became possible to complete the wonderful quota furnished by this city. The fighting qualities of these men became well known and were fully demonstrated.

It is a pity that the Government and the registrants were not protected against such losses in time, energy, efficiency and expenses by such a plan of regular interchange of information between the office of the Surgeon General of the Army and that of the Provost Marshal General of the Army as that just named. Doubtless in another war the record of this experience will be the means of avoiding such a blunder.

Perhaps such criticism from any citizens formerly in the service are not becoming or proper, but these are made with great respect for all offices, officers and their various commands.

Temporary defects and feigned disease or illness were, in the strict wording of the regulations, not managed with the same authority as that specified in Selective Service Regulations, Edition 2, Section 128½, Note 2, for registrants seeking to evade service by self-inflicted injuries. It was provided that after waiver of such physical defect by the Surgeon General of the Army such registrants were to be summarily inducted into service.

As matters of practice in New York City by concurrence with the local boards and usually by emphatic statement to the registrants, those who feigned illness or defect were often sent into hospitals for observation and determination of defects. Of course most of these registrants went into hospitals to which medical advisory boards were attached, under orders in the more or less strict sense extra-legal but not illegal in character. The result was only good because many men who would otherwise have escaped service were proven to be malingerers and inducted. This experience proves that the following is a workable addition to the regulations of drafts in the future. Local boards and medical advisory boards should have power to order into the hospital as an "observation case" any man suspected of false pretense, and there to subject him to any and all diagnostic tests with his consent. If he refuses such tests there, he should be dealt with as though he were a self-mutilator, and peremptory induction should be given him after a waiver of defect secured of the Surgeon General of the Army, as in Section 128½. If this policy had been operative, much extraordinary work would have been avoided.

Parallel with these statements, a more strict relation between local boards and registrants under treatment as designed by Section 187, "Temporary Defects," would have been very wise. Many boards were neglectful or thoughtless about these cases. As a matter of fact the physicians of the local boards should have been directed to coöperate intimately with the family physicians and institutions in these cases.

The management of a group of registrants, called in the Selective Service Headquarters for a short period "Observation Cases," was instructive and valuable and should be provided for in the regulations of the future. The origin of this classification was, first, the work which for a short time was done in camps on heart disease as previously noted and, second, the large number of registrants complaining of conditions whose degree could only be measured by observation in a hospital.

Through hearty coöperation with camp surgeons, chiefly at Camp Upton, not a small number of men, usually of foreign born parents, were reclaimed for the service by suitable notice by me to the camp officers that they were to be held for more than the usual physical examination and, if necessary, sent to the base hospital accordingly. When the "expedite order" was issued these plans had to be abandoned. It is a manifest fact that camps cannot be burdened with these "study" cases, but equally manifest is the fact that hospitals are patriotically ready to receive and report on these men. Members of medical advisory boards in a future draft would be largely hospital staff men (as they were in this draft), and therefore it would be easy to so provide for the final decision

of these obscure cases. The fact that the Government possessed the right to order self-mutilators and malingerers directly into service (respectively with and without waivers of physical defect from the office of the Surgeon General) at least tends to establish the right of the Government to control these doubtful cases by peremptorily ordering them into hospitals for study, report and decision.

The uncertainties about the Group B or Remediable Group cases were due to inexperience with them, and perhaps doubt as to the best details of securing treatment and reclamation. It was shown to be impracticable, if not impossible, to send these registrants into the base hospitals in camps. This plan was given a brief consideration and found to involve such overcrowding that the care of the morbidity among the men under training in camps would be embarrassed. It was, therefore, proven that the base hospitals could not regularly receive them because their facilities and functions had to be devoted to the men already in training.

In handling these cases in New York City the Headquarters Staff encountered a very large number of "insistants" or "volunteers." By these terms those are meant who willingly underwent operations and other remedies in order to serve their country. They evinced the best spirit of the volunteer, which began with self-sacrifice and suffering for the great cause.

The number was so great and the inquiries from local boards were so numerous as to what to do with them that I made a canvass of all the public and private hospitals of Greater New York City as to willingness, facilities and preparation for these cases. It is a source of great pride to say that no refusals were received and that limitations as to numbers came only from hospitals of small capacity. It was my privilege to operate on not a small number of these patients myself.

My understanding is that the State Headquarters in Albany received equivalent responses to their inquiries of hospitals in the state. To the men themselves I habitually laid down the principle that the longer the convalescent period before arduous physical training in camp began the better the results of the operation. I therefore induced many to submit to operation at once in order to gain this advantage and, furthermore, I recommended to the local boards that, so far as legal and possible, induction be delayed in the spirit of Section 187 governing temporary defects, in order to grant this advantage. From the patriotic attitude of the registrants and the generous service by the hospitals the following judgment, founded on this pleasant experience, seems permissible. Group B registrants in communities having hospital facilities should be ordered into the hospitals for correction of the defects as soon as the diagnosis is

settled, then cured and thereafter given a long convalescent period before induction. Only fair play and good will to the registrants are exemplified in this suggestion such as the Government endeavored to show and did in fact show to the drafted citizens.

Regulations for a future draft could readily provide a system of distribution among the hospitals. A method of application and of admission to the hospitals in the order of application would be easy to formulate so that no hospital could be overburdened.

Nearly every railroad town at the present time has one or several good hospitals. From this fact it seems probable that the early reclamation of Group B—the Remediable Group—registrants would be easy and feasible. It is conceivable that in another world war, such as the next war will surely be, this policy of early reclamation of remediable defects will be imperative and may become a great deciding factor.

Until final reports from the Surgeons General of the Army, Navy and Public Health Service and from the Provost Marshal General of the Army are in hand and digested, temporary deductions as to the outcome of the draft are alone possible, but it is desirable to state that these are commendatory and creditable. About ten million men were called and registered, but only a third of these were examined. Of this third, 29.6 per cent were disqualified and 70.4 per cent accepted and then sent to camps for training. At the camps 8.1 per cent were rejected and 91.9 per cent finally inducted. A very instructive comparison of figures reveals these data: In the draft of 1917 rejections numbered 29.1 per cent; in 1918, 29.6 per cent; in the Civil War first draft 31.69 per cent, second draft 24.06 per cent, third draft 24.95 per cent, and in the fourth draft 13.42 per cent, making the average 25.74 per cent. Relaxed standards of examination marked all but the first Civil War draft. In this World War, urban rejections were 21.68 per cent and rural rejections 16.89 per cent among 100,000 of each class considered. All these figures prove the consistent good work and good faith of the physicians in the midst of what seemed at first to be almost hopeless confusion, disorganization and unpreparedness. The outcome was a triumph of Anglo-Saxon individualism and of American genius of fearless enterprise and production.

Under the present topic of the development of medical organization during the war come, as stated, professional accomplishments among the training and fighting forces, in prevention, alleviation and treatment of disease and wounds. The clash and crash of arms are no longer the only victory of war. The conquest and triumph of preventive medicine have never been so signal, nor indeed so actual. The Secretary of War, as quoted, states that this World War is alone in history with battle fatalities outnumbering disease mortalities.

The probable factors of these successes are two: actual scientific progress in determination of causes, transmission and prevention of disease and actual recognition of the authority of medical officers to determine matters within their own sphere with relation to the forces. Based on the experience of this war, the prophecy is becoming and fitting that in the next war the official standing and authority of medical officers will be greater than in this one. Of course only good will result therefrom.

Limitation of space forbids lengthy quotations from the history of military medicine, but one may state that in this World War vanquished and vanished were the specters of devastated communities and decimated or destroyed armies by such familiar war time diseases as typhoid, typhus and relapsing fever, scurvy, malaria, smallpox, tetanus dysentery, meningitis and the like.

Sanitation and vaccination came, saw and conquered typhoid fever even in the real epidemic in 1914 in Belgium. Compulsory vaccination permitted only six deaths of smallpox among more than two million American enlisted soldiers. This recalls the classic fact that in the Franco-Prussian War, the French, without compulsory vaccination, had far more deaths from smallpox than the Germans, with compulsory vaccination, had cases of this disease. Antivaccinationists, antivivisectionists, Christian Scientists and similar other "cultists" take notice.

Each of the other diseases listed had a more or less epidemic start, intense struggle and total conquest by sanitation and preventive medicine. Typhus fever in Servia, Austria and Russia is a by-word. The work of the American Red Cross in Servia can never be suitably memorialized. The statement is made that there is hardly a family in that country that has not suffered, directly or indirectly, in its close or remote relationships, or in its casual and intimate friendships. This is the measure of what typhus fever in Servia meant. Relapsing fever appeared in Russia, and cholera in Italy and Russia. Scurvy is almost unknown through suitably canned green vegetables and good food. In prison camps where food was withheld, it came but was soon relieved. It also appeared in Mesopotamia through excess of dried vegetables. It is no exaggeration to say that in the days of Sir Francis Drake scurvy was the dread and a great problem of the British Navy. Tetanus through antitetanic serum and prompt antiseptic measures is almost completely eradicated from wounds. The easy application of sanitation when knowledge is complete is shown by the facts that trench fever is now prevented from its limitation of fighting efficiency by the destruction of body lice as the carriers. The bedbug and the body louse are known to carry and transfer both typhus fever and relapsing fever. Does it not seem foolish that the work of the Medical and Sanitary Corps should be limited by any author-

ity outside its own heads except in the sense that they are part of one coördinate machine? A very brief epitome shows that by preventive and protective inoculation dysentery, typhoid fever, cholera and smallpox were greatly controlled and that, by destruction of vermin typhus fever, recurrent fever and trench fever were also checked. In all these and similar diseases, sanitation is of great importance, as proved by its influence upon malaria and yellow fever through the destruction and exclusion of the mosquito, and in other conditions by the exclusion and destruction of the common house fly.

Still open for progress and largely not controlled in this war were mumps, scarlatina, measles, pneumonia and meningitis. Partial failure in this war does not foretell continued failure in civil or military conditions of the future. Typhoid fever fatalities were about one-tenth those of meningitis and about one two-hundredth those of pneumonia. No extended epidemic of any disease occurred, except the worldwide epidemic of influenza with pneumonia secondary to the influenza. If its peculiar and ravaging devastation is deducted, then the morbidity of the entire American Army sinks to the amazing total of 2.2 per thousand. This is hardly more than the sickness rate in times of peace.

When the authority of the Medical Staff is heeded by the General Staff of our Army and all overcrowding in barracks avoided, then this step in sanitation will aid in decreasing the incidence of such respiratory diseases as those already mentioned: pneumonia, influenza, measles and meningitis.

A remarkable and concrete example of the influence of overcrowding occurred in one of our largest hotels and the principle and results apply to barracks also. The laundry for guests' property was taken from the subcellar to the roof and housed in a modern factory structure with extraordinary window space for sunlight and air on all four sides. The proprietor has reported to the writer that the subconscious efficiency and the general health of the workers have improved at least 50 per cent. The reply was that after a while the average business man would develop brains enough to realize that, when a physician speaks, he usually speaks the truth to the effect that good work cannot be obtained from any animal in unsanitary conditions, no matter whether such animal is a human being with a soul in a laundry or a horse without a soul in a stable. We will hail the day when the efficiency engineer walks side by side with the sanitary engineer, the one laying out the factory building and its equipment for mere work, and the other laying it out for the basis of all work, namely, the health of the workers. Verily, civilization has still much progress ahead of it in these matters. Unsanitary crowding in camps and barracks brings its own dangers of disease.

The last general topic is deductions or suggestions as to the medical share in universal military training. Medical education and medical standing in the army organization and the nation seem to be the subdivisions of this subject.

In the matter of education, every medical school in the country, along with its developments toward the highest possible grade of training, should in the future include a brief course of lectures by a suitable army or navy medical officer on the broad principles of the organization and duties of the Medical Staff and of the plan of medical stations and hospitals at the front. To this may well be added clinics concerned with the broad principles of examining, accepting or rejecting recruits. Army and navy sanitation should be duly emphasized. In my own day as a student not one of these topics was taught or even alluded to except perhaps some phases of military surgery. Even these were noted as parentheses and were not made plain, declarative sentences of scientific duty for each student. The writer even doubts that this much would have been taught but for the fact that Dr. Robert F. Weir, one of the professors, had been a prominent surgeon in the Northern Army during the Civil War and therefore knew the importance of these topics. It is folly to expect to lead the profession blindfolded into such a sphere of work as military surgery and sanitation when moderate illumination will be so instructive. Medical students should be taken to camp and made to play the part of the Medical Corps enlisted men during the camp training of the members of the Medical Officers' Reserve Corps.

In the matter of medical standing in the army organization and the nation, the following facts seem proper. Whereas nearly all small and many large urban communities have either a health officer or health department as an integral part of their government, it is anomalous that no nation has a central health portfolio equal in rank and influence with other branches of the Government. The United States should have a Secretary of Public Health in the Cabinet.

The United States Public Health Service is subordinate to and only a bureau of the Department of the Treasury. It cannot have its own budget except within that of the Treasury Department. It cannot appear before Congress except through commission or permission of the Secretary of the Treasury. Again it is a case of decision and judgment by a layman as to whether or not a medical problem is worth consideration and whether or not it shall be accepted or denied. Only the other day the writer asked one of his patients who is a member of the New York Chamber of Commerce why that body did not elect a few prominent physicians so that first hand it could be kept in touch with the nature and importance of questions of public health. His frank admission was that

the probable reason is, no one had ever before presented this question. He further admitted its manifest importance.

In the Navy rather recently the Medical Department has become a part of the General Staff, but in the Army the Surgeon General is not a member of the General Staff or even represented thereon. During the war General Pershing, of his own initiative, placed three medical officers on his General Staff. If the medical problems of the fighting forces are to be correctly solved, then they must be left in the hands of medical men commissioned in proper rank and vested with full authority for such solution, subject to military necessities only.

The success with which the plan of General Pershing resulted will probably be the forerunner of the very recognition described. The present anomalous situation probably arose from the fact that sanitation and protective medicine are only now greatly developed and still developing departments of medicine. In most of the former wars and even in those of recent date, except the Russo-Japanese and the Spanish American War, they were almost unknown. The accomplishments of these two wars were as little or nothing when compared with the results in this World War. Insistent but patient should be the demand, however, that henceforth a greater standing must be given in military forces to medical science. When its results are fully measured, then the present errors will be corrected. As a rule it takes a generation for such reforms to establish themselves. For instance, this generation accepts the bacterial origin of many diseases as axiomatic, but the last generation at first heard, then doubted, and finally accepted the fact.

There is nothing in this contribution in the slightest degree unappreciative, unpatriotic or unfair in its aim. It is impossible to close the paper with an approbation of the Selective Service Law and the medical work in the war in words better than those of my former chief, the Provost Marshal General of the Army, which rather aptly apply to both:

> By all administrative tokens, the accomplishment of their task was magic, but the magic lay solely in this:
>
> At the President's call, all ranks of the nation reluctantly entering the war, nevertheless instantly responded to the first call of the nation with a vigorous and unselfish cooperation that submerged all individual interests in a single endeavor toward the consummation of the national task. I take it that no great national project was ever attempted with so complete a reliance on the cooperation of citizens for its execution. Certainly no such burdensome and sacrificial statute has ever before been executed without a great hierarchy of officials. This law has been administered by civilians whose official relation lies only in the necessary powers with which they are vested by the President's designation of them to perform the duties that are laid upon them. They have accomplished the task. They have made some mistakes. The system offers room for improvement. But the great thing

they were called upon to do they have done. The vaunted efficiency of absolutism of which the German Empire stands as the avatar can offer nothing to compare with it. It remains the ultimate test and proof of the intrinsic political idea upon which American institutions of democracy and local self-government are based.

If this brief contribution stimulates the discussion of the points it has raised, the great labor and detail of its preparation will be fittingly recompensed. If time brings and augments the changes it merely outlines, then its production will have been fully justified.

ANNUAL MEETING OF THE ASSOCIATION WILL BE HELD IN NEW ORLEANS, APRIL 22d, 23 and 24. MEETING OF THE A. M. A. BEGINS APRIL 26. BEAR THIS IN MIND.

CAMP PONTANEZEN, BREST, FRANCE[1]

THE great embarkation camp at Pontanezen handled such a tremendous number of men and was the subject of so much criticism in the United States that it requires a more lengthy and detailed account than does any other camp. The following marrative is condensed from the complete and excellent history of the camp by Col. M. C. Stayer and Lieut. G. R. Cowgill, of the Medical Corps, with the addition of some statements by Col. L. L. Smith, M. C.

That at the beginning the condition of the camp was bad cannot be denied. The conditions in December, 1918, when the camp was suddenly ordered to be converted into a great embarkation camp, were partially described by the camp surgeon at the time:

> Men were working in mud and rain most of the time and it was extremely difficult to find fuel for fires, and practically impossible for the men to use tents for shelter because the ground is practically never dry. The water supply is constantly receiving the washings from the fields fertilized with human feces and, in consequence, all the water must be treated before being drunk. Every field fertilized in this way furnishes an ideal breeding place for flies, and conditions necessitate elaborate apparatus for the sanitary protection of troops, very little of which was available,

and much more to the same effect. But the place had to be used, and it *was* used, unfortunately, before it could be made ready.

Brest was the only port on the west coast of France having a good, deep-water harbor for the great transport ships which moved the bulk of troops to and from France. It was the principal debarkation port in France when the tide of men (and of supplies as well) was at its full flow. Of the 1,057,000 men landing directly at French ports, 791,000 landed at Brest. It was inevitable that, when the ebb came, vast numbers would pour into the place and make it the greatest embarkation station for the home ports. Nearly a million men left Brest in the first half of 1919.

For this tide of men an embarkation camp was ordered, known as Camp Pontanezen. This was not a new camp. It had been examined by a board in the spring of 1918 and found fairly satisfactory, provided certain improvements were made, for some 10,000 men. It was somewhat improved, but during the summer and fall of 1918 the small permanent garrison was straining every nerve to keep the tide of men and supplies moving towards the front. There was little time to spend in preparing for debarkation, which then seemed far in the future.

[1] From reports by Cols. Guy L. Edie, M. C.; M. C. Stayer, M. C.; L. L. Smith, M. C.; and 1st Lieut. G. R. Cowgill, M. C., U. S. A. Made to Historical Division, Surgeon General's Office War Dept.

Until the very day of the armistice no time could be given to preparation for moving men in another direction. Nor were there the difficulties that appeared later, for the troops debarking did not remain long at Brest. Many went directly to the trains; others waited for only a day or two.

Troops began to arrive for embarkation about the middle of December, 1918, only a few weeks after the selection of the camp. On December 22 but 44 per cent of the tents were floored; in the remainder the men had to sleep on the ground. Forty thousand men were embarked in December, 65,000 in January (1919), and 110,000 in February.

The climate was, to say the least, disagreeable. Rains in October and November increased and became almost continuous in December. In January, 1919, there were some intervals, and dry periods in February. As Brest is on the Brittany peninsula it has an actual insular climate. The treeless plateau of the camp site was swept by moist or rain-laden winds from the Atlantic. Rain fell almost every day of December, 1918, and on three out of four days in the next month. There was, however, but one fall of snow, and little or no freezing weather.

Site and Buildings.—The site of the camp consisted of an inside area, covering approximately 15 acres, and an outside area which was increased gradually from about 90 acres in the early days to approximately 1,000 acres when the camp reached its maximum capacity in the spring of 1919. The inside area was within a wall and contained the old and very large stone barracks, about six in number, and several smaller buildings. This area was known as Pontanezen Barracks and had long been used by the French as a military garrison. It also included a stone building known as Napoleon's Morgue. The outside area consisted of farm land surrounding the inside area, and was gradually increased by requisitioning the land from the French as it was needed for the increasing number of troops.

The dimensions of the camp, as finally completed, were approximately 1 mile wide by 1½ miles long. It lay on a hill, sloping towards the south, about 1½ miles from the harbor. While the slope afforded drainage, there were neither good roads, walks, sewers nor drainage ditches, and the clayey loan surface was cut up into small rectangles by dykes and hedges. The water supply was from springs about 2 kilometers to the northeast.

In spite of all that has been said, the site was a fairly good one, or could have been made a good one, and it was the only one available near the city. It has to be used.

Besides the old stone barracks already referred to, there were, in early November, 1918, a number of new steel barracks which had been

completed. There were sufficient pyramidal tents to accommodate 5,000 troops. In 1918 many of the men also occupied shelter-tents. At first there were no floors. By December, 1918, there were a few. Some had duck-boards and some had half-floors. In January and February, 1919, the number gradually increased, and by April or May all tents were completely floored. In the early days there were no stoves for barracks except a few of French make; later, stoves were provided for all barracks and tents.

The camp as a whole had a capacity of 67,000 transients and 15,000 permanent troops, and at times this was completely filled. Yet, as a rule, the whole camp was not crowded. Some organizations remained but two or three days, others as long as a month. The average wait was about three weeks in the winter, a week or ten days in April. By that time there were 450 barracks (110 men each) and 5,000 floored tents, each sheltering six men.

There were at first only two roads, north and south. Two east and west roads were built, and in the spring of 1918 a number of good roads were completed. In the early days there were no walks. In January and February, 1919, a large number of "duck-board" walks were laid, and by spring good walks were laid all over the camp, which was lighted by electricity.

Additional water supply was secured by impounding from an open stream and boring wells. The total supply then amounted to 275,000 gallons daily. This was little more than 5 gallons per capita daily when the camp was filled to capacity. The water was chlorinated and examined frequently. In the spring, when the camp was completed, there was an adequate water supply; but in the early days there was neither water supply nor other facilities for bathing, or even for hand-washing.

Medical Administration.—On December 1, 1918, Col. B. H. Dutcher, M. C., was assigned to duty as camp surgeon, there having been no medical organization previously except that of Camp Hospital No. 33. The medical personnel then amounted to 104 officers and 400 enlisted men. By February, 1919, the personnel had amounted to 134 officers and 875 men, and by April to 230 officers and 1,561 men. From then it declined rapidly.

Colonel Dutcher was relieved on February 4, 1919, by Lieut. Col. R. H. Wilds, and on March 4 the latter was relieved by Col. M. C. Stayer M. C.

The activities of the Chief Surgeon's Office were varied. Offices of administration, records, statistics, sanitation and medical clearance were maintained. Numerous infirmaries were established. The camp

hospital and segregation camp were coördinated under the camp surgeon and friction reduced to a minimum. Weekly conferences of medical officers were held and health and venereal bulletins issued to keep commanding and medical officers acquainted with prevailing conditions of sanitation and health.

Although most organizations passing through the camp had medical detachments, some did not, and it was necessary to maintain six infirmaries for those unprovided units, besides the seven maintained for permanent organizations.

Hospitalization.—The sick at Pontanezen were cared for at Camp Hospital No. 33, which had a capacity of 2,800 beds and an isolation section for contagious diseases. Navy Base Hospital No. 1, Camp Hospital No. 45 at Landernau, and the Kerhuon Hospital were also available. During the influenza-pneumonia epidemic of October and at times after the armistice the hospital facilities were taxed to their utmost capacity, but the sick and wounded were always provided for. There was no justifiable criticism as to the handling of sick and wounded at Brest.

Camp Hospital No. 33 was actually a general hospital, occupying thirteen adrian barracks and four 300-foot barracks, with some of the old French barracks for overflow. In April, 1919, the hospital had 1,000 beds and an emergency capacity of 1,200. It was then still further expanded and soon reached a maximum capacity of 2,600 beds. The personnel was improvised, and no nurses arrived until April, 1918. The personnel was always insufficient, and especially so in the fall of 1918, when the great epidemic broke out and 12,465 patients were admitted.

The Segregation Camp.—This camp was maintained for the isolation of contacts of infectious diseases. It was established December 6, 1918, at the extreme northern extremity of the camp, in a triangular area and bounded by three public roads, which simplified the matter of guarding. The usual disease contacts were isolated here: pneumonia, measles, scarlatina, diphtheria, etc. Venereals were not all isolated in this camp until June, 1919. It was termed a quarantine camp until February 13, 1918, when the more euphonious designation "segregation camp" was adopted. The men were quarantined in floored tents, with no more than six men to a tent.

The camp was divided into plots, to each of which were assigned certain men, as venereals, diphtheria contacts, etc. Negro venereals were separated from the whites; venereal suspects were also separated from those with definite diagnoses. Venereals were classified as A, B, and C. Class A were unable to do any duty, and received no pay. Class B performed light duty, and Class C full duty (or labor). Both received pay. All were tried by court-martial, in accordance with a general order

of the A. E. F. A segregation camp hospital was maintained, with 200 beds and a sufficient laboratory. Scabies was treated in a specially equipped building. No stockade was provided for venereal or any patients except general prisoners.

The capacity of the segregation camp was about 1,500 until June, 1919, when all venereals were ordered to this camp. Early in July, 1919, all the venereals from the Army of Occupation were received, as well as others from various ports of France, necessitating extensive additions to the camp. All patients were organized into battalions, of which there were six in July, forming a provisional regiment. Extensive buildings for treatment were provided, with facilities for treating 4,000 cases of gonorrhea and 2,000 ulcers in one and one-half hours. At this time the camp was largely a venereal camp. The number of cases of venereal disease segregated numbered about 1,200, and of all contacts about 200.

This camp had a canteen and a Y. M. C. A. hut (with capacity of 2,000). Educational classes were maintained, instruction in hygiene, citizenship and other lines given, and a general friendly attitude maintained. This attitude was reciprocated, and a good morale was shown to be possible among the unpromising material which an aggregation of venereal patients furnishes.

Sanitary Management.—For purposes of sanitary inspection and control the camp was divided into seventeen sections. Each section had a sanitary inspector. The camp sanitary inspector had three chief assistants, two (white) sanitary squads, and 265 negroes from a labor battalion. Three negroes were assigned to each kitchen, and six to every five latrines. The sanitary squad supervised the work of the negroes. Senior surgeons of organizations were held responsible for sanitation in their own areas. Every day the sanitary officer held a meeting of his assistants, and the camp surgeon held a weekly meeting for all senior surgeons and sanitary inspectors.

The camp sanitary inspector had two sanitary squads (white) of 26 men each and 265 colored laborers. Two white men and a sufficient number of negroes were assigned to each area. Those on duty at the kitchens were required to keep the garbage cans and surroundings clean; those at the latrines washed the seats daily and sprayed the interiors twice daily with cresol and crude oil.

Certain activities required special inspectors. One officer inspected troop kitchens; one had entire charge of drainage problems; another handled latrine construction. Both of the latter worked with the Engineer Department.

Kitchens and Mess Halls.—When the 8th Division took over the operation of Section 5 on December 1, 1918, there was but one kitchen

in the camp. This was operated in an old stone building known as "the Morgue" within the walls of the caserne. It had seven double field ranges and forty-one French cauldrons, but no mess hall. This kitchen fed about 7,000 men daily and operated day and night until April, 1919. About the middle of December this kitchen fed 17,200 individuals in twenty-four hours. A mess hall was soon built, accommodating about 400 men. The great majority ate in the open, although there was almost incessant rain all the time.

As the great camp was built seven kitchens were extemporized, with field equipment. Later these were equipped and became permanent kitchens. Each kitchen had a personnel of one officer, two sergeants and fourteen privates. Cooks, kitchen police, etc., were drawn from the units served. As the work was continuous, day and night, mess officers were relieved weekly. The buildings were long and low, with dirt floors, usually ankle deep in mud. Each was divided into five separate kitchens, each equipped with two double field ranges and a number of cauldrons for coffee, stews, etc. The food at that time consisted chiefly of bread, beans, coffee and stew (or slum). These kitchens fed from 4,000 to 7,000 men each. Such large kitchens were more economical and easier to manage but did not allow much refinement of menus.

At the end of December, 1918, but three kitchens had mess halls. These had high, wooden tables and dirt (mud) floors, which emitted a putrid odor from the trampling in and decomposition of food particles. The difficulties and disagreeable features of these early kitchens could not be exaggerated.

Meanwhile seven model kitchens were under construction. The entire camp was divided into areas, each with a model or "troop kitchen." Each could feed 5,000 men in forty minutes. Eventually there were sixteen of these kitchens. Each was approximately 375 feet long and had six completely equipped unit kitchens. These kitchens were provided with all necessary modern appliances and had concrete floors. The mess halls were about 300 feet long. By a system of inspections and markings a friendly competition was brought about between the personnel of all kitchens, and special merit was rewarded by leave.

Ultimately all kitchens had water supply and sewer connections. Vegetable bins, made of wire matting and set above the floor, were devised. A special meat-room was built in each kitchen. Incinerators of the McCall type were built, with pipes furnishing hot water. Cleanliness of the personnel was especially looked after.

To feed 5,000 men, even at a six-fold kitchen, required fine organization. Each organization was marched by its mess officer to the mess-hall at the exact minute designated by the kitchen officer. At a small

office the organization officer signed a mess-book, stating the number of men present and the number to be fed at some other time. As the men filed past they were counted and the figures checked. The men then passed along the runways (between the individual kitchens) and received their food in their mess-kits as they passed the serving counters. They then passed into the mess-hall. After eating, they passed along a boardwalk to one end of the kitchen where twenty French cauldrons were filled with hot soapsuds and boiling water. Here they washed their mess-kits, first in hot soapsuds and then in boiling water. Garbage cans were located along the route from the mess-hall to the washroom. Their mess-kits washed, the men then passed along another walk to the exits. These kitchens appear worthy of so extended a description; they were, in April and May, 1919, satisfactory from every standpoint.

Field officers were quartered in Red Cross buildings and had special menus. Officers below this grade were quartered in barracks and tents and had their meals at the general messes. Sales commissaries and exchanges were scattered about the camp.

Disposal of Wastes.—A number of old French latrines of the hopper type, with cesspools, were in use in the inside area. Other latrines were supplied, with galvanized cans, in the early days. In October, November and December, 1918, about twenty-five cement-lined pit latrines, with urinals, were constructed and their contents removed by odorless excavator. Later, in January, February and March, 1919, these were supplemented by a large number of pit latrines of the box latrine type. The contents of the latrines of the can type and of the cement vault type were hauled away and buried in two deep pits, or trenches, at the edge of the camp. These pits were burned out with crude oil and the contents covered with dirt. By April this system was abandoned.

From November, 1918, to July 1, 1919, there were practically no flies at Camp Pontanezen.

There were very few animals at Pontanezen, motor trucks being used instead of horse-drawn. The small amount of manure which it was necessary to dispose of was hauled away by the French or buried in the pit latrines with feces.

Garbage and waste in general was at first hauled away in wagons by a central police force. When the barrack and tent areas were complete and incinerators in operation this work was comparatively less. Trucks and fourteen tank wagons were available in the course of time, so that it was possible to clean the entire camp twice daily. By June sixteen trucks were available, and the number of wagons was reduced from seventy to fifteen. Prisoners of war were then used for much of

the work. Each truck had a certain route, five being used for trash and salvage and the others for garbage. Additional trucks could be supplied for any sudden influx of troops.

The disposal of garbage was always a problem. In 1918 there was not the vast amount that collected later when 5,000 men were fed at each of sixteen kitchens. However, but little fresh meats or fresh vegetables were used. At first, part of the garbage was taken by French civilians, but for sanitary reasons this had to be discontinued. Garbage was then buried in great pits. As the troops kitchens were completed and a better balanced ration furnished, the amount of waste increased to sixty to eighty large cans per day in each kitchen. During March, April and May, 1919, incinerators were constructed at the kitchens, each capable of disposing of all the garbage, then averaging more than forty-five cans. Garbage cans, at first lacking, were gradually received and concrete garbage stands built for them.

Health Conditions.—From January, 1918, to December 1, 1918, Camp Pontanezen functioned as a debarkation and rest camp. Its garrison was small and health conditions have been described. From December 1, 1918, it functioned as an embarkation camp of a size and rapidity of movement hitherto unknown in American military history. While the strength in December, 1918, was but 7,000, in May, 1919, it rose to 69,407. The number of men passing through the camp—40,000 in December, 1918—rose to as high a figure as 170,000 in July, 1919. The permanent strength of the camp rose to about 15,000. The early sanitary conditions and faults have been discussed.

Unfortunately, statistics for December, 1918, are not complete. Mortality rates during the first six months of 1919 varied from 14.9 in January to 2.1 in June, and averaged 7.4 per thousand. With this month there was a steady decline.

Death rate, permanent troops	6.8 per 1,000 per annum.
Death rate, transient troops	7.6 per 1,000 per annum.
Death rate, whole	7.4 per 1,000 per annum.

The death rate for the whole army during this time was estimated at 9.1. It seems peculiar that there were more sick among the permanent troops, but more of the transients died.

Of communicable diseases, mumps, influenza and pneumonia were most important. The morbidity rate for mumps, by months, was: 120.3, 48.9, 48.9, 25.3, 24.4 and 16.7.

There was a mild recurrence of influenza-pneumonia in January and February, 1919. An annual rate of 106.1 per 1,000 was recorded in January, and 108 in February. The disease had persisted since the recent epidemic. The amount of pneumonia varied about 50 per 1,000

in January and February to about 2 per 1,000 in June. The average admission rate was 22.9, and for permanent troops 32. This rate will compare favorably with those of some of the camps in the United States during the same months, but not with others.

Meningitis appeared only as sporadic cases. From three to five cases were seen in each month, with a maximum of ten in May, 1919. In the whole six months there were but thirty cases, of which twenty-one were in transient troops.

Though always present, measles was not an important disease. The largest number of cases seen in one month was thirty-seven in April. There were no fatal cases.

Diphtheria showed twenty-seven cases, and there were eight each of scarlet fever and chickenpox, and two of typhoid. The vast majority of the men had passed through these diseases prevous to enlistment or in the camps in the United States.

Preparation for Embarkation.—As the principal function of Camp Pontanezen was the preparation of troops for embarkation, and as three-quarters of a million men passed through "the mill," its plan and method of working are deserving of study.

The basic idea was a division of the entire camp into areas, which might be likened to rooms in a hotel, receiving not one man but an entire organization. Within its own area each unit had its kitchen, infirmary, prophylactic station and welfare hut. A segregation camp was provided for venereal cases and "contacts." All sick and suspects and men with fever were sent to the camp hospital. Sterilizing and disinfecting plants were provided for getting rid of vermin. The plan was not to pass men from zone to zone but to hold them in one area, isolating only the sick and "contacts."

Organizations arrived at all hours of the day and night. After detrainment the men were immediately supplied with a hot meal. Data as to the strength of the arriving organization were telephoned to the billeting officer, and tents assigned before troops reached their designated area. Preparation for embarkation was the important work then to be done.

The process of preparing an organization for embarkation may be described best by following a unit from its arrival in the camp to the time when its men climb the gangplank of the homeward bound steamer.

On arriving at the camp, the organization, as has already been stated, was assigned to a certain area, where a kitchen, infirmary, water supply, latrines, sewer connections, etc., were already prepared (in the latter? of the camp.) Commanding officers and medical officers reported at the main billeting office for instructions. Instructions for medical officers covered:

1. Reports required.
2. Disposition of sick and contacts.
3. Physical examinations required.
4. Infirmaries, ambulances and prophylactic stations.
5. Medical supplies and dental treatment.
6. General orders and memoranda of medical interest.

Within twenty-four hours after arrival the transient organizations received orders to report for physical examination at a specified time. These orders were so issued as to call for 240 men every ten minutes. The unit reported at a large central building arranged for examination and bathing. This building had numbered seats (benches) for 480 men. The men stripped to their undershirts and stood on the benches, two rows facing each other. The medical inspector then passed between each two rows, looking for venereal disease and vermin. This arrangement of the men made it unnecessary for the inspector to stoop. The men then stepped down from the benches and pulled their undershirts over their heads, and the inspector passed along a second time, looking for skin diseases, scabies and body lice. Men found to be diseased or infested with vermin were segregated in a special room. The others placed their underwear and socks in bins for sterilization, leaving their outer clothing on the numbered seats. At a given signal 120 men went to the shower bath-room, where they received a four-minute hot bath. Each was then given a clean towel, socks and underwear and returned to the numbered seats. They dressed quickly and passed out. But one minute was allowed for a change of groups in the bath-rooms, so that a continuous stream of bathers was kept going at the rate of 120 men every five minutes, or 1,440 per hour. Orderlies were in charge to prevent talking and to maintain order. Lists of all men cleared were sent daily to the medical clearance officer.

Men found to have crab or body lice or nits were sent with an officer of the organization to their quarters to procure their blankets and other clothing, and then to a delousing plant. There they undressed completely and placed their clothing in receptacles for sterilizing, passing to a room where the axillary and pubic regions were closely clipped and treated with vinegar. They then passed to a bathroom, where they rubbed the entire body with kerosene soap (1 pint of kerosene to 5 pounds of soap dissolved in hot water), following this with a hot shower. While this process was going on, the men's clothing, except leather and rubber articles, was sterilized by steam for a period of twenty minutes. On coming out of the bath they were given clean underwear and clean socks and their own clothing returned to them. The medical officer in charge then checked the list of men and receipted it by writing "deloused," with date

and signature. This list was then forwarded to the medical clearance officer.

Men found to be lousy were sent to the delousing plant and treated as detailed above. Men found with scabies or venereal disease were sent to the segregation camp for treatment.

Before an organization could embark it was required to have a clearance certificate covering all officers and men. A medical clearance officer received all lists of clearance from the examining and bathing building, from the delousing plant and from the segregation camp. The certificates of examination of an organization, certificates of examination of its officers, and lists of men found with vermin, scabies or venereal disease were clipped together and marked "uncleared." When the report of the delousing plant was received it was added, as was also the report of admission of scabies and venereal patients, to the segregation camp. When all lists were checked and balanced, all men found to have been examined, all the lousy disinfected and all scabies and venereals sent to the segregation camp, the papers were signed by the chief epidemiologist, and that organization was "*cleared*." Clearance certificates were then sent to the troops movement office and base surgeon, one filed and one furnished to the organization, which then received sailing orders. If the organization did not sail within six days it had to be reexamined. Each officer was required to have a separate certificate, while the clearance for the organization covered all enlisted men in it.

The last certificate required was one showing that each man's throat had been examined daily and his temperature taken within twenty-four hours of sailing. This was made as a blank form. Any unfortunate having a temperature of one degree above normal was sent to hospital. Any with suspicious throats were sent to the segregation camp.

Sick or suspects sent to hospital, if they became of duty status in time, were returned to their organizations; if not until after the organization had sailed, they were transferred to a casual company, which embarked as a unit. Those patients who were to be embarked as "sick" or "injured" were transferred to an embarkation hospital and handled by its organization. Contacts handled by the segregation camp were treated as ordinary sick.

The camp surgeon received, as was absolutely necessary, three Troop Lists daily:

1. Billeting office, giving organization, strength and location and date of arrival. Changes on location were also reported.

2. Personnel office: strength, for statistical purposes.

3. Camp headquarters: list of transient troops; preparing for inspection, ready for inspection and ready for embarkation.

VENEREAL DISEASES FOUND IN OFFICERS AND MEN FOR EMBARKATION

	Examined	*Found*	*Rate per* 1,000
March, 1919	139,237	167	1.19
April, 1919	200,031	154	0.76
May, 1919	213,247	242	1.13
June, 1919	248,858	264	1.06
July, 1919	214,075	572	2.67

In every month the rate per thousand for officers examined was higher than that for enlisted men:

	Rate for enlisted men	*Rate for officers*
March	1.18	1.53
April	.71	1.79
May	1.04	3.10
June	1.02	1.95
July	2.64	3.33
Average	1.32	2.34

Many other details of this process are to be found in the Medical History of the Camp, but space for them is not available. A study of the whole system should be valuable to any officer required to inaugurate and conduct such a camp.

Auxiliary Agencies.—The entertainment facilities of the camp were the following: Y. M. C. A., auditorium, capacity, 3,000; Y. M. C. A., recreation centers, six; K. of C., recreation centers, one; Jewish Welfare Board, recreation centers, six; Salvation Army, recreation center, one; American Red Cross, recreation centers, four.

Entertainments of some kind were given every night, such as moving pictures, vaudeville, boxing exhibitions, etc. The total capacity of the buildings was about 25,000.

Early Faults Corrected.—The principal shortcomings of the camp in its early days were: not enough roads, no walks, no proper surface drainage, insufficient kitchens, no adequate mess-halls, poor latrines, almost no bathing facilities, inadequate delousing facilities, no sufficient means of hand-washing, no means of sterilizing mess-kits, inadequate water supply, and shortage of fuel. To explain these lacks it is necessary to state that there was at first a lack of properly trained personnel; that masses of men arrived before they were expected; that there was a shortage of material of all kinds and of motor transportation; in short, that the tide of men turned before the machine could be reversed and made to work in the opposite direction.

By April, 1919, these shortcomings had practically all been corrected. It may be said that, in May and June, Camp Pontanezen was one of the best military camps used for embarkation purposes that had ever been built. In March and April all necessary roads and walks had

been completed. Barracks, floored tents, messing and bathing facilities were adequate. Delousing facilities were adequate in May and June, 1919, and kitchen incinerators were completed. Latrines were sufficient in number, and the water supply was completed and was ample for all purposes. Considerable time and a large amount of labor were required to build the large 15,000,000-gallon reservoir and to sink the two driven wells. By April the disposal of waste was satisfactory. From November, 1918, to July 1, 1919, there were no intestinal-borne diseases at Pontanezen. Not a single case of typhoid or paratyphoid could be traced to the water supply, latrines, or in any way attributed to conditions at the camp. Some of the betterments were probably the result of criticism, but the main betterments were thought of from the beginning of December, 1918, and were made as rapidly as possible.

AUTHORITIES

"Medical History of Base Section Five," Col. Guy L. Edie, M. C.

"The Medical Department of Camp Pontanezen, Brest, France," Col. M. C. Stayer, M. C., and 1st Lieut. G. R. Cowgill, M. C.

"Statements," Col. L. L. Smith, M. C.

"History of Camp Hospital, No. 33."

REMEMBER THAT OUR NEXT ANNUAL MEETING IMMEDIATELY PRECEDES THAT OF THE A. M. A. AT NEW ORLEANS. BETTER MAKE IT A POINT TO COME TO BOTH.

EDITORIAL

Sometimes it seems as though Sisyphus, who rolled his perverse stone up the declivity, had no worse task than that which has fallen to those who have taken the Hippocratic oath. He was sentenced ever to begin again at the foot of the hill and his work was never done. With us of the profession of medicine, it is like those persistent quantities in mathematics, "surds"—were they not? The things which were always approaching their limit, but never quite reached it.

We dig industriously away at the abolition of sickness and disease, and when we are congratulating ourselves that by our advances in medical science we are ridding the world of some of the ills that flesh is heir to, something else looms on the horizon and our clear sky of health is clouded by another pest.

We put our shoulder to the wheel and, after much thought, many experiments and a far-reaching campaign of unceasing vigilance, we heaved a sigh and said, "Thank heaven, there will be no more Yellow Fever; we have banished that." With patient eye at the microscope and with much precise labor we evolved a way to obviate the occurrence of epidemic Typhoid. Another scourge under control. Diphtheria is not the black curse that it used to be, and we have wiped from our slate many of the things which used to decimate the land. But while we were congratulating ourselves on our accomplishment, we came to reckon with the plague of Influenza. Immersed as we were at the time of its initial outbreak in the bloody game of war, it seems as though we did not realize to what extent it was a menace. Even now it is doubtful if the majority of the people regard it as a serious competitor as a taker of life with the guns that thundered.

And yet, if we should read the statistics, what a puny force man in his efforts of destruction would appear in comparison with this swift, relentless force which moved with so little machinery, such a minimum of initial effort, to make the casualties of war seem slight.

Now, after a winter of it and a recurrent winter, what do we know really in respect to the mechanism of the disease? We have our theories, yes; our bacillus of Pfeiffer and Friedlander and our chains of various streptococci, but even now, it is a brave diagnostician who will put a positive finger on one and assert that here we have the initial cause. Clinically we know it, yes; we are familiar with the pathologic picture up to the point of the question of the primal cause. As to treatment, we are little better off than we used to be in respect to the maladies which we have put in the list of the things which used to be. Excepting

the not altogether proved value of the serologic treatment, we are not much beyond the treatment of the symptoms. So far we have been rather powerless against it. We were advised of the westward march of the epidemic and could do nothing to prevent the invasion of our own shores. We predicted this invasion, but conceded that it was hardly probable that any measures of quarantine would keep us clean from its soiling touch. And here we are, with this problem on our hands and in our minds, as Sisyphus with his stone. Some of ours we have rolled over the crest of the hill for the last time, but this has come to take the place of those which have gone, and we must bend our shoulders to it in the effort to write finis after it as we have with some of the others.

None of us doubts that some time, in some way, we shall solve the problem and eventually stand as victors in this conflict also.

. . . . .

The world war brought new and strange things to our brothers of the line. Novel ideas in blotting out our enemies. Never was a war before which was fought on the earth, under the earth and in the heavens above the earth, nor one which drew so on the ingenuity of the human mind in devising fresh ways of killing.

We had the reaction of this in the application of medical science. As the engines of war multiplied and changed, so had we to adapt ourselves to them and change our plans to meet each fresh condition. What a field poison gas opened up. Not only in the rather futile effort to find remedies which should help the choked wretch back to life, but in what is always the great side of medicine, prophylaxis: the ways and means which shall make harmless the onset of disease. It is probable that never before have organic and inorganic compounds been so closely studied nor so intimately known. The dichlorethylsulphide, which was a noxious curiosity to Victor Mayer when he discovered it in 1886, is now quite familiar to us all as mustard gas. Phosgene and chlorine and the other evil-smelling, deadly, unpronounceable compounds have been dragged out of the dark corners of the chemical laboratories and found, for the time being, their place in the sun. And with their advent came the measures to estimate their killing powers and those which could be depended on to render them less deadly or to repair the ravages they wrought.

We learned to minimize tetanus; to do away with the bacillus perfringens and its attendant gas gangrene. We found novel ways to combat infection, to repair seemingly hopeless gaps and mutilations. And finally we had to assume a new rôle and to take on a new importance. Constant killing and wounding has, as its ultimate limit, the

figure of the population. The dead we could not call back from Flanders fields, but we did the next best thing. We improved our means of patching and cobbling, and we sent back to the front as effective fighting men many who had been shoved into the discard as of no further use in the line. We went further than the mission of healing those who were stricken; we changed ourselves into a salvage corps whose duty was to cull, from the heap of the supposedly unfit, those who by more advanced methods and increased cunning might be made whole, or so nearly so that the slight percentage of defect should have no weight against the balance of their power.

And now, when it has finished and the guns are silent, we are opening up new fields in the line of reconstruction and reëducation and making worth while, to the state and to themselves, many who in older times would have limped useless through the remainder of their crippled lives. It has brought a further good, too. For, grievous as are the injuries of war, there is a ceaseless war of machines against man, and in this the toll of wounded is heavy, far heavier than any know who are not informed as to economic conditions. And to these who have been hurt in this peace-time war will come the help and benefit which is being worked out for the salvation of their brothers who wore the uniform of the fighting men. So may peace profit by the lessons of war.

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ANNUAL MEETING

The annual meeting of the Association will be held in New Orleans on the 22d, 23d, and 24th of April next. The meeting of the American Medical Association will open on Monday, the 26th. Notice as to the headquarters of our meeting will be given in the April issue of The Military Surgeon. It is hoped that the attendance may be large. Our association is the one important one of its class in the United States and numbers among its members many distinguished men. The meetings are of interest not only for the addresses and discussions but for the opportunity of meeting those who make up the association and making new friendships, as well as renewing old ones.

It is desired to call attention to a fact which has perhaps not been sufficiently well understood heretofore, and that is, that aside from those who make up the membership of the association all medical men are welcome at the sessions. It would be well if this were more generally understood. We are glad to have the company of any who are interested, and that they may have the opportunity of knowing what the association is and what is its work. It is suggested that the members

make this known. Invitations have been sent to a number of the foreign governments to send delegates to the meeting, and several have expressed their intention of doing so.

As an old society and one which is becoming better known each year, it is desirable that we turn out in force. A tentative program of the meeting will be published in the coming issue of this magazine, the number for April.

J. R. C.

ANNUAL MEETING OF THE ASSOCIATION WILL BE HELD IN NEW ORLEANS, APRIL 22, 23 and 24. MEETING OF THE A. M. A. BEGINS APRIL 26. BEAR THIS IN MIND.

ASSOCIATION NOTES

At a meeting of the Executive Council of The Association of Military Surgeons, February 14, 1920, the following names were proposed and elected to membership in the Association:

Medical Corps, U. S. Army

Lieutenant Colonels

Burton O. Clark
Peter D. MacNaughton
Justin M. Waugh

Majors

Howard H. Bell
Frederic J. Cotton
Moses Hubbard Darnall
Charles S. Dryer
Edgar C. Duncan
Herbert L. Freeland
Edmund Burt Owens
James E. Rawlings
John A. Robison
Bernard Samuels
Wood S. Woolford

Captains

Clarence J. D'Alton
James W. Anderson
Edwin C. Bakes
Henry R. Baremore, Jr.
Abraham A. Brill
Samuel J. Benoit
Charles H. Bryan
William B. Cantrell
Fred R. Clapp
John K. Crandall
William H. Crawford
Malcom M. Crocker
Timothy F. Donovan
George S. Drake
Clifford W. Hendrickson
Carl B. Herrimann
Thomas E. Horner
John P. Jones
Palle P. M. Jorgensen
Joseph W. Kimberlin
George S. Lambeth
John L. Messmore
Joseph L. Morrissey
Herbert W. Nafey
Albin B. Phillips
Robert C. Panter
Carl M. Pohl
Franklin W. S. Raiter
Jesse McC. Reed
Philip Rice
Anthony B. Russell
James C. Sartor
Joseph O. Schraunn
Ivy Stensell
William M. Sylvis
Jacob Washton
John R. Williams
John W. Wilson
William R. Woodbury

First Lieutenants

Robert S. Andrews
Geo. W. Bagley
Harold D. Barnard
Floyd E. Best
Martin T. Brewer
Eugene H. Brown
Roy A. Buckner
Joseph A. Buckwalter
William E. Campbell
Matthew J. Fitzpatrick
Eric J. Gambee
Paul T. Hope
Elbert V. Kring
Jesse P. Lockhard
Francis J. McMenamin
Nolie Mumey
Magnus J. Myres
Ulus E. Nickell
John W. Ovitz
Seymour H. Rowland
Herman S. Rhu
Verner T. Scott
Alvin E. Siegel
William H. Sloan
Roy A. Taylor
Frank M. Whiting

Medical Reserve Corps, U. S. Army

Lieutenant Colonels

Carter S. Cole
David C. Hall
George E. Houek
Archie C. Van Cleve

Majors

Richard D. Bell
Charles E. Beltzer
Nathan W. Brown
Delane S. Calhoun
William A. Downes
Harry S. Fish
Elden H. H. Foster
R. A. McBrayer
Peter A. Reque
Edward B. Towne
Frank B. Whitmore
Edward F. Ziegelman

Captains

David A. Baker
Charles P. Benson
Hugh E. Conwell
Robert D. Ferguson
Versile M. Gates
John H. Graff
John W. Horn
Irvin S. Koll

Medical Reserve Corps, U. S. Army

Captains

Arvine E. Mozingo
James D. Tunnell
Luther L. Turner

First Lieutenant

Oscar V. N. Linhardt

Medical Corps, U. S. Navy

Commander

Herbert L. Kelley

M. C., U. S. N. R. F.

Lieutenants

Lawrence W. Ehegartner
William H. Gaul
Joseph N. Gehlen
Ray W. Hayworth
Vincent H. Usera
Harold S. Hulbert
Harry E. Kaplan
Antonius A. Larsen

M. C., N. G., U. S.

Captain

Charles G. Wright

U. S. P. H. S.

P. A. Surgeons

David E. Arnold
William A. Flick
Elbert C. Reitzel

A. A. Surgeon

S. S. Marchbanks

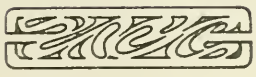
Associate Members

Contract Surgeon, U. S. Army

Bartlett U. Sims

Colonel, Dental Corps, U. S. Army

Franklin F. Wing



REMEMBER THAT OUR NEXT ANNUAL MEETING IMMEDIATELY PRECEDES THAT OF THE A. M. A. AT NEW ORLEANS. BETTER MAKE IT A POINT TO COME TO BOTH.

COMMENT AND CRITICISM

GOVERNMENT NEEDS PHYSICIANS

The United States Civil Service Commission announces that a large number of physicians are needed for employment in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, and the Panama Canal Service. Both men and women will be admitted to examinations, but appointing officers have the legal right to specify the sex desired when requesting the certification of eligibles.

Entrance salaries as high as $200 a month are offered, with prospect of promotion in some branches to $250, $300, and higher rates for special positions.

Further information and application blanks may be obtained from the secretary of the U. S. Civil Service Board at Boston, New York, Philadelphia, Atlanta, Cincinnati, Chicago, St. Paul, St. Louis, New Orleans, Seattle or San Francisco, or from the U. S. Civil Service Commission at Washington, D. C.

PHARMACOPOEIAL CONVENTION, MAY 11, 1920

In harmony with the requirements of the by-laws, attention of interested parties is called to the meeting of the Tenth Decennial Pharmacopoeial Convention of the United States, to be held beginning at 10 a. m., May 11, 1920, at the Willard Hotel, Washington, D. C. All incorporated bodies and other institutions entitled to membership in this convention are entitled to at once apply to Dr. Noble P. Barnes, Arlington Hotel, Washington, D. C., for the necessary blanks for membership in the convention.

Prior to the meeting of the convention, the Committee on Credentials will meet in Washington to consider all applications which are made It is important, therefore, that all applications for membership should be in the hands of Dr. Barnes at least six weeks before the date of the meeting. It will be difficult to consider, properly, credentials which are delayed beyond that date and especially those which may be presented at the time of meeting.

Sincerely.

B. H. W. Wiley,
President, 9th Decennial
Pharmacopoeial Convention of the United States.

THE ROYAL INSTITUTE OF PUBLIC HEALTH

CONGRESS IN BRUSSELS

THURSDAY, MAY 20, TO MONDAY, MAY 24, 1920, INCLUSIVE

PATRON:

HIS MAJESTY THE KING OF THE BELGIANS

37, RUSSELL SQUARE, LONDON, W. C. 1.

9th January, 1920.

DEAR SIR:

The Council will be obliged if you will kindly give publicity in your journal to the Congress of the Institute which is being held in Brussels in 1920 on the Invitation of Monsieur Adolphe Max (the Bergomaster), and the Rectors of the various Belgian universities.

The Council will also be glad to welcome any delegates of your Association at the meeting, and pleased to receive the titles of any papers which they may desire to read.

The Council have invited delegates from the British universities, municipal corporations and other bodies interested in the public health, and they have taken steps through the British division of the American University Union in Europe to extend a like invitation to the universities, municipal corporations and public health associations in the United States.

It is believed His Majesty The King of the Belgians will be present at the inaugural meeting, and, from the generous support of the Brussels organizing Committee, and the assistance of the various government departments, the meeting will prove most instructive and enjoyable.

Yours faithfully,

T. N. KELYNACK,
Honorary Secretary.

AMERICAN PHYSICAL EDUCATION ASSOCIATION PROGRAM

TENTATIVE FINAL NEW YORK CITY, APRIL 7-10, 1920, WALDORF-ASTORIA-MCALPIN

Wednesday, April 7

Morning and afternoon—Registration and Visitation Trips.

7.30 p. m.—Music and Reception.

Welcome Address—Dr. John H. Finley.

Presidential Address—Dr. Dudley B Reed.

Folk Dancing by Delegates—Eliz. Burchenal in charge.

Thursday, April 8

9.30 a. m.—Public School Section meeting.

2.00 p. m.—Sectional meetings.

8.00 p. m.—Pageant as provided by New York Society.

Friday, April 9

9.30 a. m.—General meeting.

Problems in Recruiting Teachers in Physical Education Prof. Elmer Berry.

Educational Tests for Physical Efficiency—Prof. E. L. Thorndike.

Health and the High Cost of Living—Prof. Irving Fisher.

2.30 p. m.—General meeting.

Progress in Physical Education Legislation.

Address—Prof. F. S. Lee, Columbia.

Relation of Physical Education to Leisure Time in Industry—Dr. George E. Vincent—President Rockefeller Foundation.

6.45 p. m.—Convention Banquet.

Addresses:

Col. Campbell—"Physical Training at Aldershot."

Dr. Eliott

Dr. Butler

Toasts:

Dr. D. A. Sargent

Dr. T. A. Storey

Saturday, April 10

9.30 a. m.—General Meeting.

The Place of Physical Education in the General Scheme of Education—Dr. Snedden, Pres. of National Ass'n for Vocational Training.

Discussion of Printed Reports.

Business meeting and Adjournment of Convention.

12.00—Luncheon—A. P. E. A. Council Meeting.

THE NATIONAL ANESTHESIA RESEARCH SOCIETY

Announcement is made of the launching of the National Anesthesia Research Society, with the avowed purpose of collecting data and prosecuting original research in this field of medicine. The objects of the Society as set forth in the constitution are:

To promote the science of anaesthesia and to enable its members, after first having obtained the approval of the Society, to submit without prejudice to the dental and medical professions, any views, findings, or accomplishments they have attained; to obtain from all available sources such information as is now extant concerning any material, liquid or gas, known to have anaesthetic properties; to arrange, in cooperation with dental, medical, and anesthesia associations for the

preparation and delivery of suitable interesting and educational papers on the general subject, or relative to some particular anesthetic; to use influence to prevent the publication or circulation of any false or unauthentic statements concerning any and all conditions, symptoms, or phenomena prevailing during or after anesthesia by any anesthetic, and to prepare and distribute on request, forms on which such information can be tabulated with uniformity; to distribute by pamphlet or publication, as its funds may permit, and its governing powers authorize, such reliable data as it may collect or obtain through its members or others interested in the subject of anesthesia, for use by the medical and dental professions; to coöperate with state authorities and other bodies in the preparation fo suitable legislation to safeguard those to whom anesthetics are administered as well as those called upon to administer them; to use its influence in every way and to give its aid toward the advancement of the Science of Anesthesia.

The Research Committee which will have supervision of original work and the editing of material designed for the profession and professional press, is headed by F. H. McMechan, A.M., M.D., of Avon Lake, Ohio, editor of the Quarterly Supplement of the American Year Book of Anesthesia and Analgesia. W. I. Jones, D.D.S., president of the Inter-State Anesthetists' Association, will have an active part in the committee's work. Representative anesthetists of the country, who have distinguished themselves by research and progress in their field, are being invited to join the committee.

The Society has been endowed with limited funds which will permit it to demonstrate that there is a field of usefulness for it.

In compliance with request of the Bureau of the Public Health Service, we reprint the following:

VENEREAL DISEASE CONTROL ACTIVITIES

EDUCATIONAL AND MEDICAL CAMPAIGN OF THE DIVISION OF VENEREAL DISEASES DURING THE FISCAL YEAR ENDED JUNE 30, 1919.[1]

By Charles V. Herdliska

Acting Assistant Surgeon, United States Public Health Service

During the fiscal year ended June 30, 1919, the Division of Venereal Diseases of the Public Health Service conducted a highly successful program for nation-wide control of venereal diseases. This campaign was conducted with physicians, dentists, druggists, nurses, medical and allied colleges, professional journals and advertising media throughout the country. This report gives some idea of one branch of the work that is being carried on by the Division of Venereal Diseases, as well as the methods which have been employed.

Physicians

In order that physicians might be impressed with the seriousness of the problem of venereal diseases and realize their responsibility to the public in carrying out the

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[1] Reprint from the Public Health Reports, vol. 34, No. 41, Oct. 10, 1919, pp. 2241–2247.

control program by reporting such diseases coming to their attention, and also to give each physician an opportunity to secure a copy of the revised Manual of Treatment of the Venereal Diseases, a communication was sent to approximately 132,000 doctors in the United States.

This communication consisted of a letter, a bulletin (V. D. No. 35), "An Appeal to Physicians for Coöperation," and an agreement card. The letter asked for the coöperation of every physician in the control program, and promised a copy of the manual to each one who signed an agreement card. In the bulletin the physician's individual responsibility was pointed out, and it was made clear that the attitude of the medical profession as a whole would determine largely whether venereal diseases are to be brought under control.

Each physician was urged to sign and return the card whereby he agreed:

1. To report cases of venereal diseases in accordance with the laws and board of health regulations.

2. To secure prompt treatment for all venereal cases coming to his attention, either treating them himself or referring them to a clinic or physician known to be competent in the treatment of such cases.

3. Not to dispense medicines for venereal diseases except where they cannot be obtained from a drug store; and not to recommend, prescribe, or sell any proprietary remedy marketed for the self-treatment of venereal diseases.

4. To give every venereal disease patient a circular of instructions, a supply of which is to be furnished free of charge by the Public Health Service or the State Board of Health.

As a result of this letter, agreement cards and favorable replies have been received from 60,666 physicians, or nearly 50 per cent of the medical profession of the United States. It is felt that this response is very gratifying and that the ultimate coöperation of the entire medical profession is assured.

In accordance with the usual policy of the Service, the cards of agreement received were forwarded to the state boards of health with a list of the physicians to whom the letter was sent. Each state board was asked to communicate with the physicians who have not responded and to secure their coöperation. It was suggested to each state that a supply of the manuals be purchased for distribution to those physicians who signed agreement cards. At the close of the year, June 30, 1919, 35 states had responded by purchasing 71,300 copies of this manual. Physicians in states which have not bought copies of the manual are receiving them from the Service. A record of the number of physicians pledging their coöperation and of the manuals purchased by states is shown in the table.

Medical and Allied Schools, Colleges, and Universities

In order that physicians may be better equipped to handle cases of venereal diseases scientifically, a plan was suggested by the Service to the medical and allied schools, colleges, and universities in the United States, having in view two objects:

1. To enlarge and improve courses in the diagnosis and treatment of venereal diseases so as to include laboratory and clinical facilities in colleges where these courses are being taught; and to have such courses introduced as major courses in colleges where they are not being taught, that the students in medical schools and colleges may be equipped to handle these diseases when they begin to practice.

2. To offer special courses covering short periods of time, which men who are now practicing can take in order to prepare themselves to handle these diseases according to the best scientific methods. This program applies primarily to medical

schools and colleges. It is important, however, that all schools of dentistry, pharmacy, and other allied schools have adequate training in the pathology of venereal diseases.

Preliminary to presenting this program to the medical and allied schools of the country, conferences were held at the universities in Washington, D. C., including the professional schools of Georgetown, George Washington, and Howard Universities. These conferences included addresses on—

1. The sanitary attack upon venereal diseases.
2. The better teaching of venereal diseases in schools, clinics, and hospitals.
3. The place of venereal diseases in medical, dental, and pharmaceutical schools, in hospitals, clinics, and training schools for nurses.
4. The importance of a proper knowledge of venereal diseases, not only to physicians but also to dentists, druggists, and nurses, and to college physical directors.

Social-hygiene films were shown and resolutions were adopted.

Using the program of the conferences held in Georgetown and George Washington Universities as a suggested form to be followed by other schools, a letter was sent to approximately 350 schools of medicine, dentistry, pharmacy, and physical education in the United States. Favorable replies have been received from all. The Georgetown University School of Medicine has broadened the work of the hygiene department, extended its curriculum, and increased its clinic facilities. The George Washington University Medical School has appointed a special teacher for this field, and has made plans for extending its lecture and clinical work, the new arrangement to go into operation with the beginning of the new school year. Howard University, representing the colored medical, dental, and pharmaceutical schools of the country, is making similar plans.

A second letter is now being sent out for the purpose of securing as early as possible the establishment in rural communities of extension courses for the benefit of the physicians and dentists who cannot leave their professional work to attend postgraduate or special courses in the fall, winter, or spring. The results of this plan are not yet apparent.

Nurses

Special courses were given at Columbia University summer sessions to prepare public-health nurses for work in venereal-disease control.

V. D. Bulletin No. 40, "Lectures to Nurses," has been issued. In this bulletin there is discussed the history, social significance, and pathology of venereal diseases, and their prevalence as shown by statistics in the Army and Navy. This pamphlet has been sent to 42,471 student nurses and 1,509 training schools for nurses in 44 States. From nurses 424 requests for literature have been received.

Among the conventions of nurses at which the control program has been presented and the nurse's responsibility emphasized, are the following:

National League of Nursing.

Graduate Nurses' Association.

National Organizations of Public Health Nursing.

The State Graduate Nurses' Associations of Connecticut, Illinois, Kansas, Kentucky, Louisiana, Massachusetts, Maine, Nebraska, New Jersey, North Dakota, Pennsylvania, Rhode Island, South Carolina, and Virginia.

The Alameda County Nurses' Association, Piedmont, Cal.

The New York City Federation of Public Health Nurses.

Local Nurses and the Lincoln Hospital Alumnae in New York City.

Druggists

The campaign to secure the cooperation of druggists was launched in the fall of 1918, following the campaign with the advertising media. The purpose of this plan was to eliminate the sale of nostrums for the self-treatment of venereal diseases, and the prescribing by druggists of remedies for the treatment of these diseases.

A letter, inclosing V. D. Bulletin No. 21, "An Appeal to All Retail Druggists," and an agreement card, was sent to the 48,500 druggists in the United States. In this appeal druggists were asked:

1. Not to prescribe or recommend any remedy for a venereal disease.

2. Not to purchase any proprietary remedy to be sold to the public for self-treatment of a venereal disease, and not to sell any such remedy after January 15, 1919.

3. To refill only such prescriptions for the treatment of venereal disease as were given originally to the customer by a reputable physician who is still in charge of the case.

4. To distribute literature furnished by the Surgeon General to persons asking, without a physician's prescription, for remedies customarily confined to the treatment of a venereal disease, and to direct such persons to a reputable physician, to an approved clinic, or to the state board of health.

As a result of this communication and of a second letter sent out in January, 28,226, or nearly 60 per cent, of the druggists have favorably responded by letter or by agreement card.

This campaign was referred to the state boards of health in April. Each state was sent a list of the druggists and the replies received. A supply of V. D. Bulletin No. 36, "Disease and Health," and of V. D. Bulletin No. 2, "Responsibility of Druggists to the Public Health," was also sent to each state to be disrtibuted among the druggists who pledged their cooperation. The plan provided that a copy of the "Disease and Health" pamphlet should be given to each person asking for a venereal disease remedy without a doctor's prescription, and that every employe of a pharmacy should be given a copy of V. D. Bulletin No. 2 for his own information. Each state has been asked to continue the campaign until every druggists in the state has discontinued the prescribing and sale of proprietary remedies for venereal diseases.

The table on page 327 summarizes by states the campaign with physicians and druggists:

Advertising Media

In an effort to secure the elimination of advertisements of quack doctors and medical institutes in treating so-called private diseases, and of nostrums for the self-treatment of venereal disease, a letter was sent to the business managers of the 20,000 newspapers and magazines in the United States carrying advertising.

This letter was accompanied by V. D. Bulletin No. 12, "An Appeal to Advertising Media to Coöperate in the Fight Against Venereal Diseases," and an agreement card which each manager was asked to sign and return. Those signing the card agreed:

1. Not to print the advertisement of any doctor or medical institute offering to treat venereal diseases, either naming specific diseases or using indirect terms, such as "private diseases," "lost manhood," "discharges," "diseases peculiar to men," etc.

2. Not to print the advertisement of any nostrum described as effective in the self-treatment of venereal diseases.

It was known before beginning this campaign that the great majority of the 20,000

REPORT OF CAMPAIGN WITH PHYSICIANS AND DRUGGISTS JULY 1, 1918 TO JUNE 30, 1919

Name.	Agreement cards signed by—		Manuals purchased by state boards of health for distribution to physicians	Pamphlets sent state boards of health for distribution to druggists	
	Physicians	Druggists		V. D. No. 36	V. D No. 2
Total	60,666	28,226	71,300	809,598	132,831
Alabama	782	249	2,000	7,470	1,245
Arizona	171	63	250	1,890	315
Arkansas	917	457	1,000	13,710	2,285
California	2,555	554	4,100	16,620	2,770
Colorado	720	455	.....	13,650	2,275
Connecticut	594	334	1,300	10,020	1,670
Delaware	93	77	400	2,310	385
District of Columbia	380	96	800	2,880	480
Florida	440	231	500	6,930	1,155
Georgia	865	344	3,500	10,320	1,720
Idaho	197	180	200	5,400	900
Illinois	4,014	1,709	12,000	51,270	8,545
Indiana	1,503	979	5,000	29,370	4,895
Iowa	1,381	1,142	3,000	34,260	5,710
Kansas	1,076	742	3,000	22,260	3,710
Kentucky	1,071	395	.....	11,850	1,975
Louisiana	586	317	2,000	9,510	1,585
Maine	414	380	1,000	11,400	1,900
Maryland	732	239	.....	7,170	1,195
Massachusetts	2,473	1,222	1,000	36,660	6,110
Michigan	1,683	1,011	2,000	30,330	5,055
Minnesota	1,018	633	.....	18,990	3,165
Mississippi	643	299	1,800	8,970	1,495
Missouri	2,307	1,055	.....	31,650	5,275
Montana	229	231	500	6,930	1,155
Nebraska	773	607	.....	18,210	3,035
Nevada	62	29	.....	870	145
New Hampshire	237	261	.....	7,830	1,305
New Jersey	1,092	762	3,500	22,860	3,810
New Mexico	185	90	100	2,700	450
New York	4,488	2,594	.....	77,820	12,970
North Carolina	724	258	2,500	7,740	1,290
North Dakota	267	280	500	8,400	1,400
Ohio	2,557	827	2,000	24,810	4,135
Oklahoma	998	619	2,000	18,570	3,095
Oregon	457	284	750	8,520	1,420
Pennsylvania	4,051	1,439	.....	43,170	7,195
Rhode Island	276	192	.....	5,760	960
South Carolina	439	121	1,000	3,630	605
South Dakota	289	328	.....	9,840	1,640
Tennessee	1,197	282	.....	8,460	1,410
Texas	1,872	852	5,000	25,560	4,260
Utah	211	116	500	3,480	580
Vermont	268	142	100	4,260	710
Virginia	912	359	1,000	10,770	1,795
Washington	716	388	2,000	11,640	1,940
West Virginia	587	200	2,000	6,000	1,000
Wisconsin	1,071	749	3,000	22,470	3,745
Wyoming	93	53	.....	1,590	265
Miscellaneous	10,000	3,000	.....	52,818	6,701

periodicals were not carrying quack venereal-disease advertising, but as an educational measure and to inform them of the stand taken by the service it was considered advisable to include all.

The agreement cards and newspaper clippings received showed that approximately 19,800, or 99 per cent of the 20,000 newspapers and magazines circularized were coöperating. A special letter was then sent to the 200 papers which were still carrying objectionable matter. As a result 60 of these papers have agreed to change their policy, leaving only 140 which are still carrying venereal-disease advertising of this character.

Many of the newspapers and magazines which have not carried quack venereal disease advertising for many years have said that they consider such advertising not only undesirable from the standpoint of a clean newspaper, but also injurious in its effects on the health of the communities they serve.

This campaign also has been referred to the state boards of health for completion.

Medical, Dental, Pharmaceutical, and Allied Journals

A campaign has also been launched by circular letter with the medical and allied journals of the country, the purpose of which is to secure their coöperation in giving publicity to the program presented to the medical and allied colleges. There have been sent out 1,700 letters to these professional journals. It is too early to tabulate results, but the replies being received show great interest and enthusiastic coöperation in the program outlined.

Dentists

A campaign with dentists was started in April by a conference held under the auspices of the National Capital Dental Society of the District of Columbia, at the George Washington Dental School. The purpose of this campaign is to secure the better instruction of dental students and practicing dentists in diseases of the mouth, especially syphilitic lesions of the mouth.

The letter to dental schools has already been mentioned. A letter inclosing an appeal and agreement card similar to those used for physicians and druggists has been prepared, and is now being sent out to the 45,000 dentists of the country.

NOTES ON VENEREAL DISEASE IN THE ARMY AT THE PRESENT TIME

The excellent record made by the draft army in its venereal disease rates, the intense interest taken in control of venereal diseases during the war and the fact that we are now passing, or have passed, back to a professional army status make it desirable that we consider whether or not we shall pass back to the old professional army rates of venereal disease and, if not, how we can best avoid doing so.

This matter has received the serious consideration of other branches of the War Department than the Surgeon General's Office.

The medical side of the problem is probably better known than the social side, but even it has involved a good deal of guesswork. As an example of this may be cited the statements which army and other authorities have put forth as to the value of drug prophylaxis of venereal disease, statements oftentimes so extreme as to indicate that such prophylaxis, properly applied, was infallibly preventive of venereal infection. This unintentional exaggeration possibly resulted for a time in increased exposures and infections; it is now resulting in loss of confidence in a measure of real value.

Since the early part of September a questionnaire to be answered under seal of confidence and secrecy has been submitted to each soldier in whom a new case of venereal disease was detected. Each man was free

to answer or to refuse to answer all or any part of the questionnaire. Reports upon 3,000 cases were received by December 15, 1919, and compilation of these show the following results:

		Answers
(*a*) Months of service	79,852	2,910
(*b*) Gonorrhea	1,941	
(*b*) Chancroid	469	
(*b*) Syphilis	536	
(*c*) Origin, local	1,306	
(*c*) Origin, distant	825	
(*c*) Origin, foreign	676	
(*d*) In house of prostitution	632	
(*d*) Not in house of prostitution	2,157	
(*e*) Days elapsed before discovery	44,882	2,635
(*f*) Drink a factor	450	
(*f*) Drink not a factor	2,390	
Solicited	960	2,818
(*g*) Took prophylaxis	1,498	
(*g*) Did not take prophylaxis	1,333	
(*g*) Time elapsed when taken, hours	3,500	1,420
Stayed all night	512	
(*d*) Total amount paid	$4,828.24	
(*d*) Number who paid	1,502	
(*d*) Number who did not pay	1,263	
Number instructed	2,501	
Number not instructed	370	
(*h*) Number of exposures in year	35,670	2,398
(*h*) Number of exposures without prophylaxis	14,312	
(*i*) Efforts made to abate nuisance	364	
(*i*) No effort made	1,555	
Number of men who stayed all night and who took prophylaxis	178	
Number of hours elapsed between exposure and taking prophylaxis	551½	
Average number of elapsed hours	3¼	
Per cent of men staying all night who took prophylaxis	3.5	

(*a*) The average length of service, 27.4 months, indicates that we are again on a professional army status.

(*b*) Gonorrhea constitutes 65.8 per cent, chancroid 16 per cent, syphilis 18 per cent. This is a higher percentage of chancroid than usually obtains in our army in America, lower than obtained in France.

(*c*) A large proportion of infections are contracted at points remote from the place of service where detected.

(*d*) Only 22.6 per cent of infections were contacted in houses of prostitution and only half of the men paid for infecting intercourse. This shows that commercialized vice is not responsible for nearly all venereal disease and that control of the two does not go parallel.

(*e*) The average time elapsing between exposure to and detection of disease was seventeen days. This is doubtless considerably longer than the average period of incubation, but the increase was largely due to absence on leave or otherwise at the time when the disease first appeared.

(*f*) Drink was admitted as a precedent of the infective intercourse in only one-sixth of the cases concerning which this information was furnished.

(*g*) More than half of the cases followed the use of prophylaxis. This was also true in the A. E. F.

A considerable number of infections followed quite prompt use of prophylaxis, within from ten minutes to one hour. The average time of use was 2½ hours, and, as all use up to twelve hours after intercourse was counted, it is evident that in most instances it was considerably less than that.

(*h*) The average number of exposures without prophylaxis for each infection following its neglect was 10.7, while the average number with prophylaxis for each infection following its use was 14.2.

I have elsewhere estimated that in the A. E. F. the use of prophylaxis reduced the liability to infection among the users to one-third of what that would have been without it. These figures do not support so favorable a conclusion, but it must be borne in mind that these deal only with infected men, whereas the estimate made for the A. E. F. included men who had escaped infection.

(*i*) It is noteworthy that, so far as known to the men, no efforts were made in three-fourths of cases to confine, hospitalize, treat or otherwise deal with the infecting woman. There is great opportunity herein for activity on the part of civil authorities.

During the war prostitution and the sale of alcohol were forbidden within 5 miles, and later within 10 miles of camps. The measure was of undoubted value, as all sorts of studies indicate that, other things equal, venereal contacts increase as opportunities therefor abound. But that efforts expended near camps cannot nearly control venereal disease is shown above by the fact that in a considerable majority of instances the disease was contracted at a place distant from the camp or other place of detection.

Another table which is not here reproduced shows the places where infections were contracted, and it also shows that to prevent venereal disease in the Army we must prevent it throughout the country in general. It shows too that certain cities produce venereal disease in amounts disproportionate to their size and the number of soldiers to whom they are accessible. Among such places are Baltimore, Atlanta, Chattanooga, Columbus, Georgia, Des Moines, Newport News and

Norfolk, Panama and Colon, St. Louis, San Antonio and Washington, D. C.

COLONEL P. M. ASHBURN,
Medical Corps, United States Army.

STATISTICS OF VENEREAL DISEASE IN THE ARMY OF THE UNITED STATES IN 1918

BY COLONEL P. M. ASHBURN
Medical Corps, United States Army

(With two illustrations)

1. The following basic facts upon which my computations and deductions are based are from the official sources indicated in the footnotes:

(*a*)	Mean strength of army in U. S.	1,381,429[1]
	Mean strength of Whites in U. S., per cent	92
	Mean strength of Negroes in U. S., per cent	8
(*b*)	Total number of venereal cases in U. S. in 1918	196,008[2]
	Total number of venereal cases in whites	123,023
	Total number of venereal cases in negroes	72,985
(*c*)	Increments—white—Draft to September	1,697,673[3]
	Draft October and November	127,283[4]
	Voluntary enlistments	199,089[5]
	Total white increment	2,024,045
	Negro—Draft to September	318,744
	Draft October and November	6,884[6]
	Enlistments neglible[5] and [4]	
	Total negro increment	325,628
	Total white and colored increments	2,349,673

(*d*) Rate of venereal infection found in incoming men = 5.669 per cent.[7] This rate applied to intake shows 133,203 cases introduced from civil life. Which leaves 62,805 cases which were developed after enlistment.

(*e*) For five years (1912–1916) before the war the rates for white and colored troops stationed in the United States averaged 93 and 105 respectively per 1,000 men per annum.[8]

Considering the great restrictions placed upon drink and prostitution within 5 and later 10 miles of camps in 1918, it seems fair to assume that the rates for new cases after entry into the service were equal for that year.

[1] Report of Surgeon General, 1919, Table 4, Vol. 1, p. 59.
[2] *Idem.*, Table 516, p. 962.
[3] Table 20 —Personnel Statistics Report A-14, Sept. 1, 1918. Statistics Branch, General Staff.
[4] Report of Surgeon General, 1919, Statistical Tables, Vol. I, Nativity Table, Table 1, p. II.
[5] Second Report of Provost Marshal General, Table 79.
[6] Same source as for white.
[7] Statistical Division, Surgeon General's Office.
[8] Reports of Surgeon General 1913 to 1917.

(*f*) The increment by months were as follows, so nearly as I can determine.

	White	*Colored*
January	64,513	
February	101,735	8,241
March	129,072	28,680[9]
April	164,177	33,365[9]
May	397,925	932[9]
June	288,975	41,549
July	348,416	71,759
August	209,826	83,767
September	193,153	50,451
October and November	127,283	6,804

2. *Deductions.*—The incidence rate (62,805 cases in mean strength of 1,381,429) was 45.46 per 1,000 per annum.

8 per cent of this was negro = 5,024 negro cases developed in service.
92 per cent of this was white = 57,781 white cases developed in service.
123,023 minus 57,781 equals 65,242 white cases brought in from civil life by 2,023,945 men, giving infection rate of 3.22 per cent.
72,985 minus 5,024 equals 67,961 negro cases brought in from civil life by 325,548 men, giving an infection rate of 20.87 per cent.

3. An attempt was made to avoid sending men with venereal disease to the A. E. F. While not wholly successful, it was sufficiently so to eliminate from practical consideration the influence of introduced cases upon the incidence rate. No men were taken into the army after November 11, 1918, and from that date onward the U. S. rate should have been no more influenced by imported cases than was that of the A. E. F.

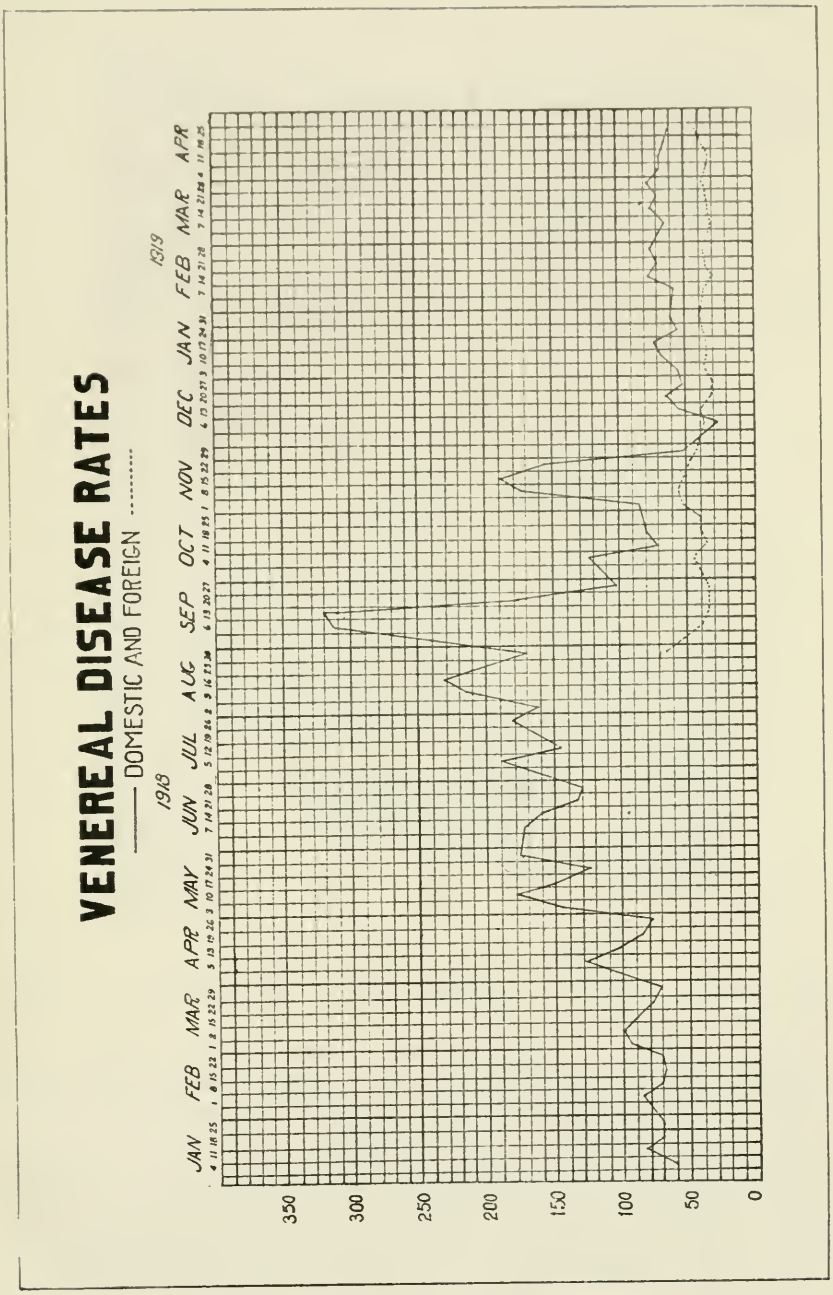
The A. E. F. cases were reported upon a basis of inspections and involved little duplication.

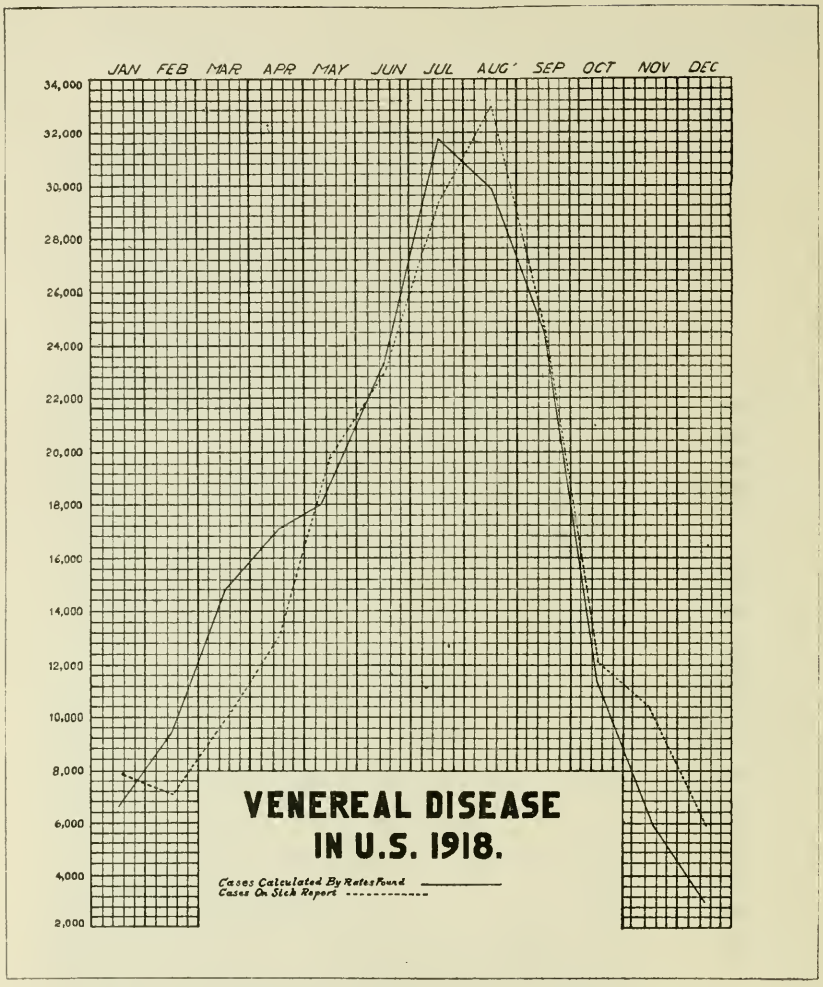
The U. S. cases were reported as sick and probably contained more duplications, but the rates at home and abroad were probably not far apart.

4. There is appended hereto a chart showing the weekly reported incidence of venereal disease in the U. S. and the A. E. F., the rates being expressed as annual rates per thousand men, figured on the basis of cases reported for each week shown. It is thought that the facts and deductions set forth above make this chart much more comprehensible than it is alone.

5. Chart No. 2 is submitted as proof of the correctness of my estimates. The solid line shows the *calculated* numbers of venereal cases for the various months. The broken line shows the cases actually placed on sick report. The discrepancies are thought to be explained fully by

[9] Same as sources ' and '.


VENEREAL DISEASE RATES
DOMESTIC AND FOREIGN
1918
1919
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR
350
300
250
200
150
100
50
0



the constant and almost inevitable delay in getting cases on to sick report.

6. In 1918 there were enlisted in the Navy, the Naval Reserve and the Marine Corps 302,584[5] men free from venereal disease, the venereal infections being cause for rejection from enlistment and actually causing the rejection[10] of 15.31 per thousand applicants for the Navy, 8.98 per thousand for the Naval Reserve and 6.16 per thousand for the Marine Corps. The very large majority of men so rejected were caught in the draft and taken into the Army, further increasing the infection rate therein. Only one per cent of naval enlistments were colored men.

[10] Statement from office of Surgeon General of Navy.

7. *Conclusions.*—(*a*) The incidence rate of venereal disease developed after entry into the army among men in the United States in 1918 was about 45 per 1,000 per annum.

(*b*) The proportion of Class A men (in the draft sense) between the ages of 21 and 31 years and of the white race who were found infected with venereal disease at the time of their entry into the service was (including naval and marine enlistments) less than 3 per cent.[11]

(*c*) The proportion of negroes of similar age and class so infected was above 20 per cent.[11]

[11] In general these figures relate to disease detected by clinical examinations without the aid of routine Wassermann tests or similar diagnostic refinement.

REMEMBER THAT OUR NEXT ANNUAL MEETING IMMEDIATELY PRECEDES THAT OF THE A. M. A. AT NEW ORLEANS. BETTER MAKE IT A POINT TO COME TO BOTH.

BOOK REVIEWS

Shock at the Front, by William Townsend Porter. Boston: The Atlantic Monthly Press. Price, $1.25.

This very human little book of one hundred and fifty pages is written for the laity rather than for the profession. Inasmuch, however, as when we closed the door of the surgery and our minds to the problems of illness, we presumably revert for the time to this class, there is no reason why we should not appropriate for our use and benefit the good things of the lighter world.

To those who knew Dr. Porter as the precise man of science, the strict teacher, the delightfully whimsical style of this little brochure may come as a surprise. It goes, however, to show that even the uncompromising pursuit of so obstruse a theme as physiology may have an underlying substratum of humanity.

Dr. Porter, pruning his writings of technical verbiage, forgetting the "reaction of degeneration"; that anatomic catch all, "the floor of the fourth ventricle," and the other scyllae and Charybdi between which we sailed such troubled courses in our student days, admits us to his personal confidence and takes us intimately with him while he kicks his heels in the dusty offices on the Boulevard St. Germain; in his wanderings in charming Compeigne and into and through the corpse-strewn front—that area of blood and barrage.

He is philosopher enough to extract humor from his trials of postponement and pitiful enough to see in the broken, human wreckage something more than a basis on which to prop a theory, which is that wound shock is due to the carriage of fat globules into the blood-vessels in wounds of the long bones and the viscera, the embolism transproduced causing the characteristic lowering of the blood-pressure and the bleeding to death of the patient within his own veins.

His descriptions are telling and vivid, none the less so by reason of his adoption of the French "short sentence" style (*staccato ostinato*), and a guarded use of the "historical present" which he so warmly commends as the sure haven of an alien speaking French.

His dissertation on Paul Bert and his physiologic rat is very delightful, as are all his descriptions.

We do wish, though, that he had kept his promise and told us what he thought about the Belgian police.

Perhaps he was afraid.

J. R. C.

Industrial Medicine and Surgery, by Harry E. Mock, M.D.,F.A.C.S., Assistant Professor of Industrial Medicine and Surgery at Rush Medical College; Attending Surgeon, Saint Luke's Hospital, Chicago; Lieutenant Colonel, Medical Corps, United States Army. With 210 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Price, $10.00.

Colonel Mock has presented to the profession a work that deviates from the usual character of a text-book on medicine and surgery. Instead of

dealing with the individualistic practice of medicine he has produced a valuable treatise on group medicine that will be heartily welcomed by plant and industrial physicians, surgeons and sanitarians. He gives in detail the methods and procedures for conserving the lives and limbs of the working people and for reclaiming those disabled in the daily routine of the industrial world.

The book is divided into six parts, as follows: Part I, Industrial Health Service; Part II, Prevention; Part III, Industrial Medicine; Part IV, Industrial Surgery; Part V, Compensation, Insurance, Medico-legal Phases; Part VI, Reconstruction.

Part I describes the organization and operation of the medical and sanitary service of industrial plants and mercantile establishments. The functions of the medical staff and the industrial nurse are outlined and details are given for the practical working of the service. In Part II are discussed such matters as industrial hygiene, epidemiology in industry, health hazards in occupations, accident prevention, the National Safety Council, etc. The medical examination of employes, medical treatment of employes, women in industry, the tuberculosis employe and kindred subjects are treated in Part III. Part IV is an excellent dissertation on preventive surgery as applied to industry. First aid, emergency surgery, the subsequent or permanent treatment of certain injuries, the X-ray in industrial surgery, hand infections, open treatment of fractures and the employe's foot are discussed in an interesting manner. Part V is devoted to the consideration of employe's compensation from the medical standpoint, compensable hernia, health insurance, employe's mutual benefit associations and similar phases of industrial medicine. The important matters of Americanization of the foreign employe and human conversation and reclamation are dwelt upon in Part VI.

The typographical work is excellent, the paper is good, and the book is well illustrated.

FRANCIS M. MUNSON.

ORTHOPEDIC AND RECONSTRUCTION SURGERY, INDUSTRIAL AND CIVILIAN, by Fred H. Albee, A.B., M.D., Sc.D., F.A.C.S., Lieutenant Colonel, M. C., U. S. A., etc., etc. With 804 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Price, $11.00.

The title of this valuable treatise, "Orthopedic and Reconstruction Surgery," indicates the metamorphosis that has taken place in the past ten years in this department of medicine. It no longer consists of an almost exclusively conservative therapy but now embraces the application of radical surgical procedures to the numerous deformities and distortions that were formerly regarded as amenable to relief only by conservative treatment. This work, while in no wise detracting from the importance of conservative methods, assembles and brings to the attention of the profession in a practical manner those surgical procedures which contribute so largely to the reclamation of the cripple and to the rehabilitation of the physically incompetent in military, industrial and civil life. It includes, in addition to the subject matter usually classified as "Orthopedic Surgery," the consideration

of a large number of closely allied conditions originating either in the various present-day industrial organizations or in the Great War. The book is splendidly illustrated and the typographical work leaves nothing to be desired.

BOOKS RECEIVED

Books received are acknowledged in this department and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interest of our readers and as space permits.

MODERN SURGERY: GENERAL AND OPERATIVE, by J. Chalmers DaCosta, M.D.; Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Eighth edition, revised, enlarged and reset. Octavo of 1,697 pages, with 1,177 illustrations, some of them in colors. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $8.00 net.

INDUSTRIAL MEDICINE AND SURGERY, by Harry E. Mock, M.D., F.A.C.S., Assistant Professor of Industrial Medicine and Surgery at Rush Medical College. Octavo volume of 846 pages with 210 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $10.00 net.

ORTHOPEDIC AND RECONSTRUCTION SURGERY, INDUSTRIAL AND CIVILIAN, by Fred H. Albee, M.D., F.A.C.S., Professor and Director of Department of Orthopedic Surgery at New York Post Graduate Medical School and at the University of Vermont. Octavo volume of 1,138 pages with 804 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $11.00 net.

THE NOSE, PARANASAL SINUSES, NASOLACRIMAL PASSAGEWAYS, AND OLFACTORY ORGAN IN MAN, by J. Parsons Schaeffer, A.M., M.D., Ph.D. With 204 illustrations. Philadelphia: P. Blakistons Son & Company. Price, $10.00 net.

Obituary

Those of our membership whose deaths have been noted since our last report are as follows:

Major J. Harry Collins, Medical Corps, U. S. Army.

Capt. Dwight S. Spellman, Medical Corps, U. S. Army.

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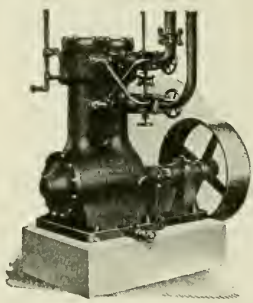

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Fig. 12—Dinner Plates, sizes dia. 7⅛, 7⅞, 8⅜, 9¼ and 10½ in.
Fig. 13—Soap Dish with Drainer, size 5⅜ x 4⅛ x 1⅛ in.
Fig. 14—Cups and Saucers, sizes, cups ½ and ¾ pints; saucers 6⅛ in. dia.
Fig. 15—Sputum Cup, size 3⅞ x 3¾ in.
Fig. 16—Oval Trays, sizes 10 x 8 x ¾ in., 12 x 9½ x 13/16 in., 14 x 11¼ x ⅞ in., 16 x 13 x 15/16 in., 18 x 14 x 1 in., and 20 x 15 x 1⅛ in.
Fig. 17—Round Medicine Trays, sizes dia. 8, 10 and 12 in.
Fig. 18—Oblong Serving Trays, sizes 8⅜ x 11¼ and 11¼ x 16¼ in.
Fig. 19—Pus Pans, Kidney Shape, sizes 6¾ x 3 x 1¼, 8 x 3½ x 1½, 10 x 5 x 1¾ and 12 x 7 x 2 in.
Fig. 20—Basins, size 10¾ x 2¾, 11¼ x 2¾, 11⅞ x 3⅛, 12½ x 3⅜, 13¾ x 3⅞, 15 x 4, 15⅜ x 4½, 17¾ x 4½ and 19¾ x 5 in.
Fig. 21—Brush or Instrument Tray, size 8 x 3 x 1½ in.
Fig. 22—Eating Bowls, sizes 4 x 2⅝, 4¾ x 2¾, 5½ x 3 and 6¼ x 3¼ in.
Fig. 23—Sponge Bowls, sizes dia. by depth: 4 x 2, 5 x 2¼, 6 x 2¾ in.
Fig. 24—Bed Pan, 18½ in. long by 4 in. deep.
Fig. 25—Queen Bed Pan, 15 in. long over all, 12 in. wide over all, 4 in. deep over all.
Fig. 26—Instrument Trays, sizes 7⅛ x 5⅝ x 1⅜, 8 x 6 x 1¼, 9½ x 7½ x 1⅜, 16⅝ x 10¾ x 2⅜ in.
Fig. 27—Solution and Immersion Bowls, sizes 7 x 3, 8¾ x 3¼, 10¼ x 3¾, 11¾ x 4½, 12½ x 4½, 13½ x 4¾, 14¼ x 5, 15¾ x 5¾ and 17¾ x 6½ in.
Fig. 28—Ceylon Tea Pots, Individual, sizes 1½, 2 and 3 pints.
Fig. 29—Cuspidor, 7 in. dia. by 4 in. high.
Fig. 30—Cream Pitchers, capacity ½ pint.
Fig. 31—Male Urinal, seamed, capacity 1 quart.
Fig. 32—Female Urinal, seamed, capacity 1 quart.
Fig. 33—Bed or Douche Pans, Seamless, size 15¾ x 11¾ x 3 in.

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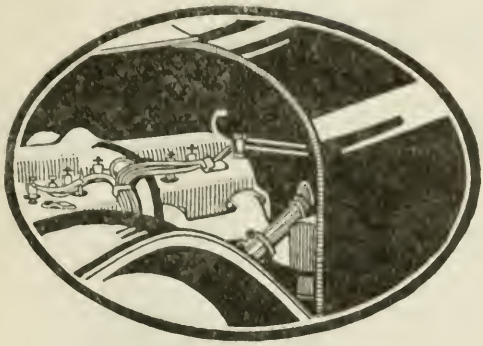

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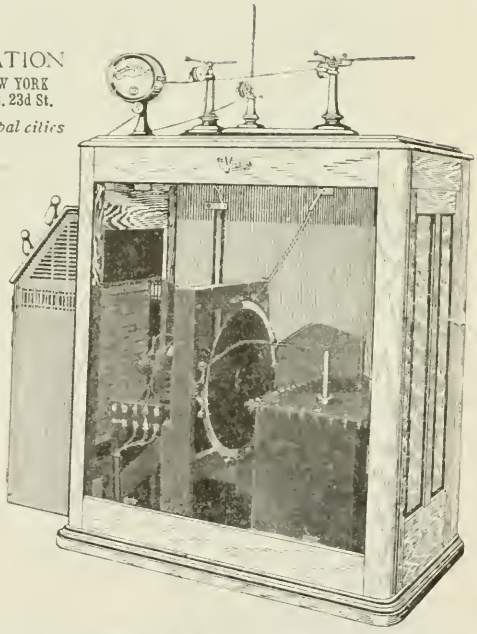

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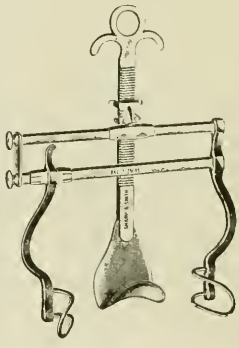

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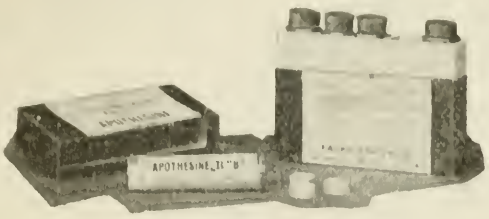

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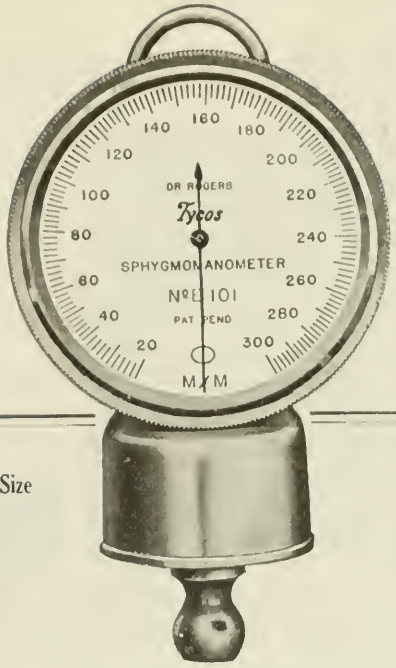

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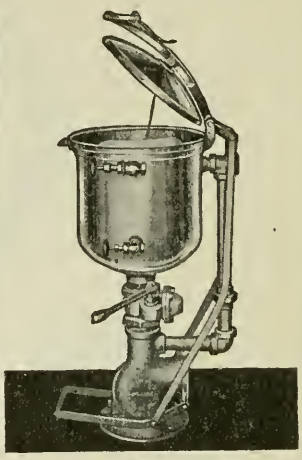

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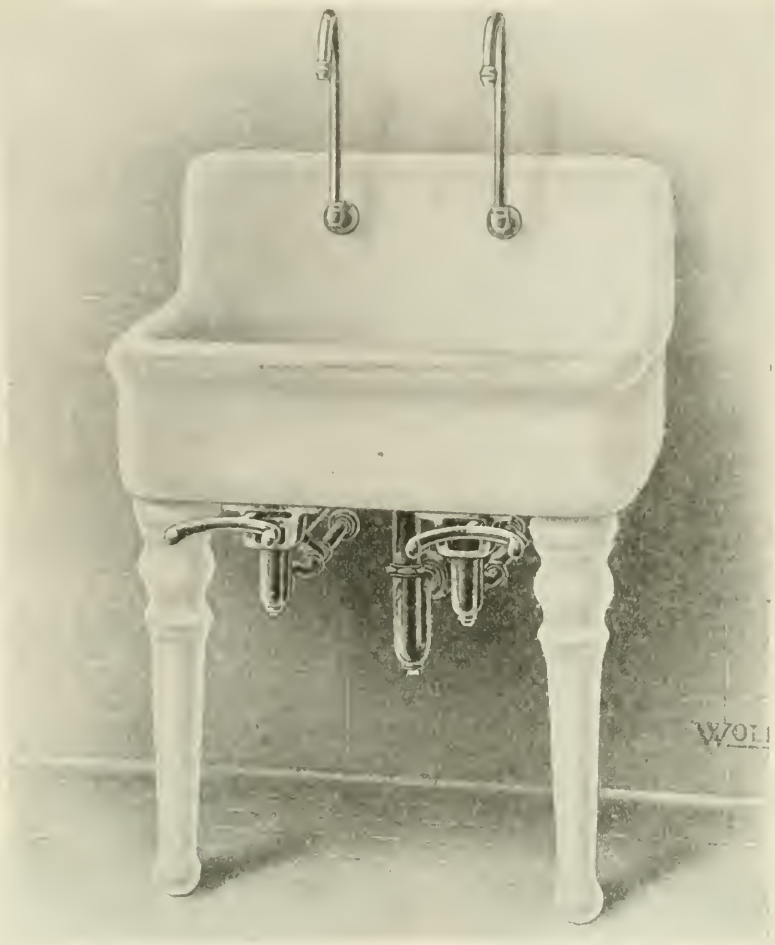

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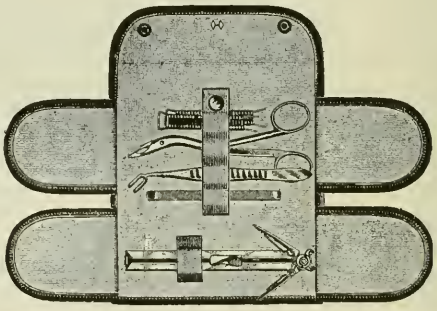

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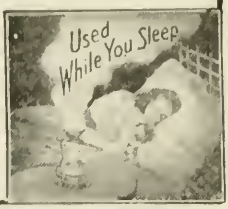

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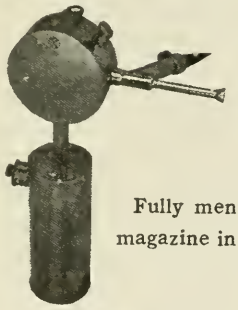

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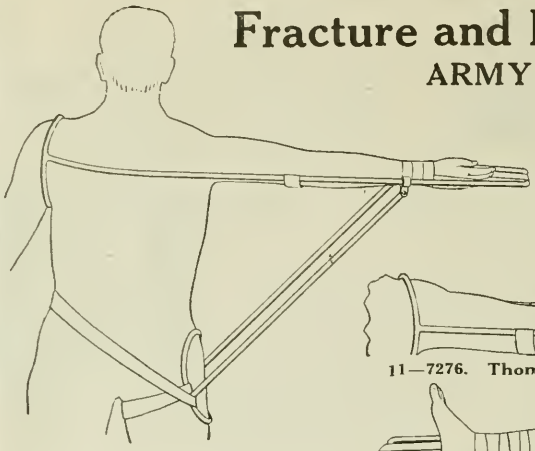

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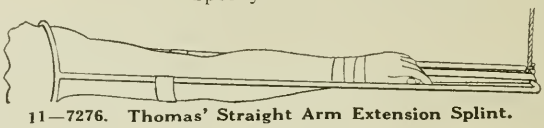
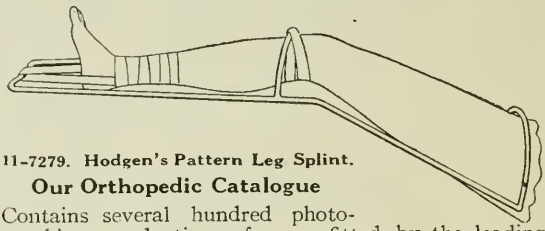


11—7276. Thomas' Straight Arm Extension Splint.



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11-7275. The feature of this splint is the adjustable bracket which can be regulated to incline or decline the arm extended with adjustable hip bracket.

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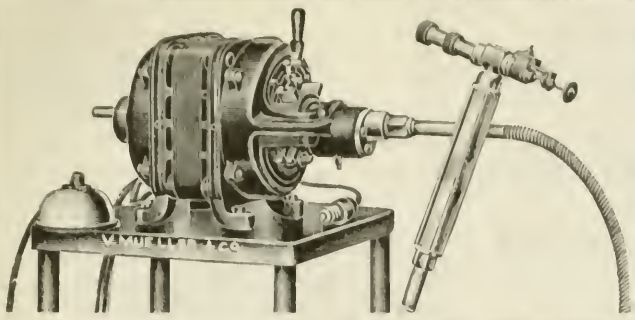

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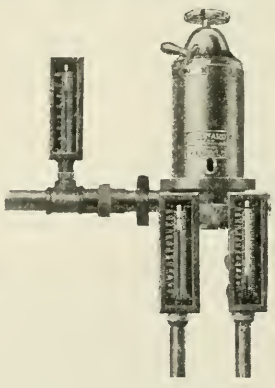

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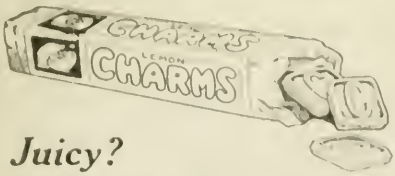

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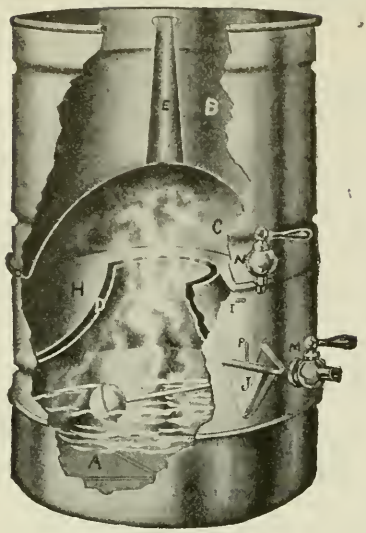

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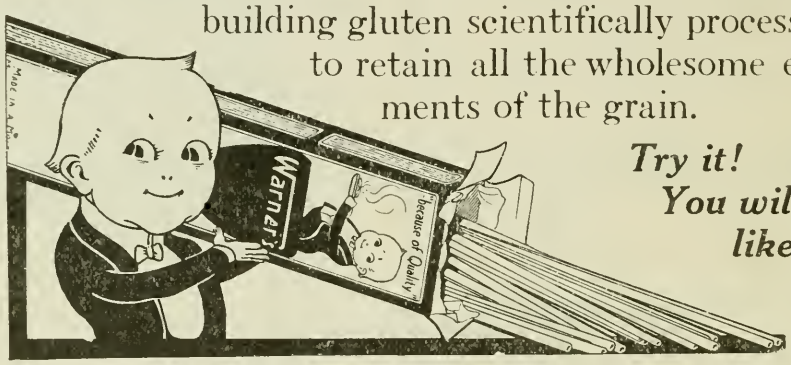

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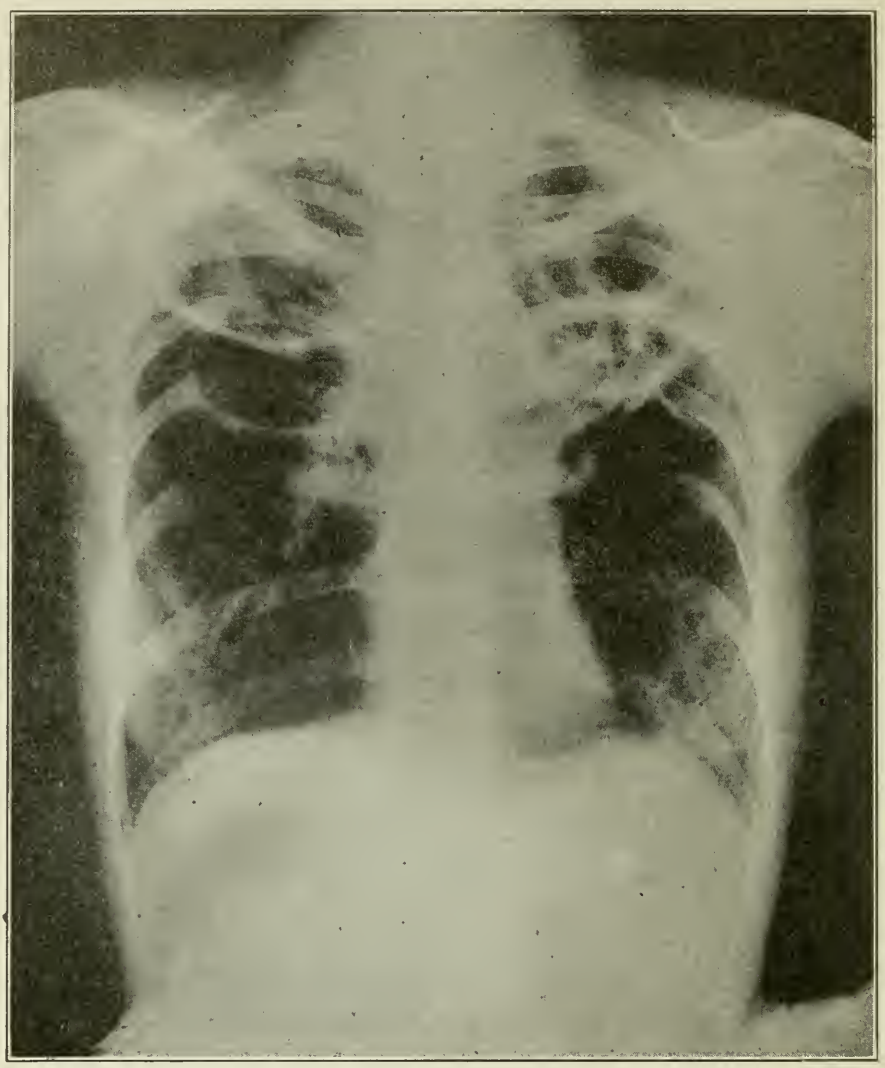

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